

# DOCTRINE AND MILITARY TRAINING DURING THE PORTUGUESE FIRST REPUBLIC: USE OF LAND FORCES IN WORLD WAR I

## *A DOCTRINA E O TREINO MILITAR NA PRIMEIRA REPÚBLICA: O EMPREGO DE FORÇAS TERRESTRES NA PRIMEIRA GUERRA MUNDIAL*

**Cláudio Luís da Silva Ferreira**

Infantry Major

Command of the Azores Military Zone

Integrated Investigator for the CISDI

Ponta Delgada, Portugal

clasf76@gmail.com

### **Abstract**

The establishment of the First Republic in Portugal created an environment of tremendous political and social instability, weakening most national institutions, including the Army. The Republic brought about one of the most significant Army reorganizations in its history, impacting negatively on its cohesion and operational capability, on the eve of Portuguese participation in the First World War. Participation in this war would be an enormous test to the Army's physical, moral and conceptual components, and to doctrine in particular.

We concluded that the doctrine of the Portuguese Expeditionary Corps already integrated the teachings of the war, and was implemented during the operations carried out in Flanders. As for training, it was in most cases insufficient and grossly inadequate.

The experience of participation in the war would have played a role in doctrinal evolution, but the prevailing factor was technological evolution. The war was a catalyst for technological development, but it was this same technological development that decisively conditioned the changes in doctrinal thinking.

**Keywords:** First World War, Doctrine, Training, Offensive, Defensive.

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## Resumo

A implantação da Primeira República em Portugal criou um ambiente de enorme instabilidade política e social, debilitando a maioria das instituições nacionais, incluindo o Exército. A República trouxe ao Exército uma das mais significativas reorganizações da sua história, provocando um impacto negativo na sua coesão e capacidade operacional, nas vésperas da participação na Primeira Guerra Mundial. A participação nesta guerra constituir-se-ia para o Exército como um enorme teste às suas componentes: física, moral e conceptual, particularmente na sua doutrina.

Concluimos que a doutrina do Corpo Expedicionário Português já integrava os ensinamentos da guerra, tendo sido aplicada nas operações realizadas na Flandres. Quanto ao treino, este foi na generalidade dos casos realizado de forma inadequada e manifestamente insuficiente.

A experiência da participação na guerra terá contribuído para a evolução doutrinária, mas o fator preponderante desta evolução foi a evolução tecnológica. A guerra foi o catalisador do desenvolvimento tecnológico, mas foi o desenvolvimento tecnológico que condicionou de forma decisiva a modificação do pensamento doutrinário.

**Palavras-Chave:** Primeira Guerra Mundial, Doutrina, Treino, Ofensiva, Defensiva.

## Introduction

Before World War I (WWI), Portugal was being threatened by Spain in the mainland, by Germany in the colonies and was doubly vulnerable because its sole element of foreign policy was based on an alliance with England, a country that was at that time engaged in a policy of compromise with Spain and with Germany. The issue of the legitimacy of the Republic at the national level must be added to continental and colonial factors, as it was still unresolved, and the cause of great instability and unrest in its internal policy (Teixeira, 2003, pp. 17, 20).

The general aim of this paper is to carry out an analysis of the evolution in the doctrine of land force (LF) employment, a consequence of Portuguese participation in WWI, while seeking to achieve the following objectives: to verify whether the doctrine was applied in training and in operations; and to identify fundamental differences in LF doctrine employment during the periods under analysis.

The entire study develops around the concept of “doctrine”, making it imperative to define it at the outset and to describe the dimensions and indicators that will be taken into consideration in the analysis.

Paul Latawski (2011, p. 3) states that the issue of military doctrine has not received proper attention, considering its importance. Doctrine determines how military forces think, what experiences they have, how they fight, how they train, how they adapt to operational changes and how they envisage the future.

The concept was first discussed after WWI, by British naval strategist Sir Julian Corbett, who referred to military doctrine as “the soul of warfare”. For Sloan (2012, p. 243), this statement reveals what doctrine is, but also hides much about the concept. It does not explain how military doctrine is formulated, used, or disseminated. To better understand the concept, it is necessary to contextualize and define it.

As for contextualization, doctrine is framed within the conceptual component (which, in addition to doctrine, includes the principles of war and development) of combat potential that together with the physical component (personnel, equipment, logistics, training and readiness) and the moral component (motivation, leadership and management) ensure the Army’s ability to accomplish any mission, as combat potential can be applied across the entire conflict spectrum ( Portuguese Army, 2012, pp. 2 and 22).

National doctrine interprets it as the “... set of principles and rules that seek to guide the actions of military forces and elements, in compliance with the Army’s operational mission of pursuing national objectives. These have imperative character but judgment is required in their application” (Portuguese Army, 2012, p. XIII).

In order to define the dimensions employed in analyzing the doctrine, we adopted the view of General Loureiro dos Santos in his model for the study of Military History. The model includes four areas of the military arts: policy, technology, doctrine, and organization. In the section on doctrine, the model comprises three levels: strategic, tactics, and logistics (Santos, 2010, p. 21). As the object of this essay is solely the doctrine of force employment and not force support, doctrine dimensions will be analyzed at the strategic and tactical levels.

Sloan (2012, p. 244) states that military doctrine is seen as a bridge between thought and action. Thus, analyzing the doctrine solely at the strategic and tactical levels would be limiting. For this reason, we will also look at how military thinking influenced the manner in which war was conducted, and consequently at the doctrine applied in the employment of the military apparatus.

For the *military thinking* dimension, we identified, in each period, the main threat to Portugal that guided national thinking on warfare, and the main influences behind Portuguese military thought concerning the employment of forces in operations.

Regarding the *doctrine at the strategic level* dimension, as we extrapolated the concept to the time-frame under analysis, we found that a clear distinction between global, general and particular strategies did not exist yet.

Until after WWI, all strategy was simply military strategy. It was strategy that set the goals to be achieved. This concept was subordinate to the ideologies of the main Prussian generals like von Moltke, to whom strategy was a practical adaptation of generals’ resources to the purposes of war. WWI had the characteristics of a global war, which required an evolution in the concept of strategy (Arrifes, 2004, p. 37). During the period under analysis, strategy was nothing more than a military strategy regarding the use of forces on the battlefield.

Military strategy was related to the use of military forces at the Theater of Operations. It was aimed at the objectives defined by policy and was strictly operative, or represented a pure, narrow concept of operational strategy for military activity in the War (Duarte, 2009,

pp. 182 -183). This occurs in contrast to the current concept, in which military strategy, from the perspective of the development and application of forces (the scope of this study), is understood in its genetic, structural and operational aspects.

Therefore, we will analyze *military strategy* in its operational component as a second dimension of this study, examining the guidance that was given to the military land forces during the periods under analysis, concerning its operational employment, internally and externally.

As the object of this study is the *doctrine for employment of land forces*, which is directly related to military operations, and according to Colin Gray (2005, p. 113) covers aspects pertaining to military performance on the battlefield against an enemy, the final dimension under review, *tactical level doctrine*, will be the main focus of this paper and will be analyzed in two sub-dimensions, *offensive* and *defensive*. Each of these sub-dimensions will be compared, in the periods under review, according to the main indicators<sup>1</sup>, the adopted *phases of operation* and *ways of maneuvering*. Special attention will be given to infantry and artillery, as the majority of operations in WWI were characterized primarily by the use of these units.

## 1. FROM THE END OF THE MONARCHY TO THE FIRST WORLD WAR

*Our Navy and Army needed to be remodeled, to coin a common phrase, from "head to toe".*

Abel Botelho, 1911

With the establishment of the Republic came the "Reorganizing the Army" decree of May 25, 1911 (Matos, 2003, p. 117). A reorganization of the Army was carried out according to a republican structure, in the image of the Swiss Army. The Army was responsible for three crucial missions: guaranteeing national sovereignty, ensuring pacification, order and peace in the overseas territories and supporting the State's foreign policy (Lousada, 2010, p. 1).

The reorganization was extensive and aimed at significantly changing the Army's basal philosophy. The Republic deemed a standing army to be a dying force and instituted a militia army based on the thinking that a homeland defense should be supported by general conscription, a policy that extended to the different activities of the nation and not only to the Armed Forces (Ferreira, 2007, p. 261).

Matos (2003, p. 117) states that the reorganization was carried out "... through a military program, which at least in appearance was utopian." The most fundamental values of the institution were destroyed, and with them the operational capability of an Army that had recently demonstrated its operability. On the one hand, the creation of a Militia Army was consecrated in the law; on the other, a core of permanent officers distrusted by the Republic remained, which would turn a capable and competent military machine into a frayed force ruled by indiscipline and mistrust and mostly concerned with internal issues (Telo, 2013a).

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<sup>1</sup> These are the main indicators described in the doctrine of the time.

### a. Military Thinking

Regarding military thinking, the American Civil War had demonstrated that the world was facing a new form of warfare. Large scale industrial mobilization, mainly the use of railways and machine guns, contrasted with poor tactical employment of the arms, especially the infantry. The use of trenches in the more advanced stages of the Civil War was even more of a presage of the kind of war that was coming. Regardless, Europe chose not pay attention to these signs, attributing them to the ineptitude of American soldiers (Fernandes, 2003, p. 512), not least because, a few years later, the Franco-Prussian war would again focus on maneuver warfare and on the prevalence of offense over defense.

The differences were evident. At the strategic level, the development of the railway and the telegraph enabled the Prussian Army to move personnel faster than ever before, which implied battles were no longer coordinated under a single commander, with greater importance and freedom awarded to junior officers. At the tactical level, weapons development potentiated the width and depth of the front-lines, as armies were scouted before they even saw the enemy (Howard, 2002, pp. 19-20).

Between 1900 and the beginning of WWI, three new concerns emerged to condition Portuguese military thinking. The first was an increase in European rivalries, leading to the belief that a war in Europe was likely and that it was necessary to decide what would be Portugal's position in that situation.

The second concern was based on the threat from Spain. After losing the colonies in America, Spain approached England and France and gained international permission to expand in northern Morocco, becoming the focus of Spanish military activity, which was also looking to subjugate or annex Portugal. The unstable and always worrying Portuguese-Spanish relationship deteriorated with the establishment of the Republic (Lousada, 2007a, p. 111) and the threat grew stronger after the regicide of King Charles, when, in London, Alfonso XIII tried to gain international authorization to invade Portugal, under the pretext of maintaining order (Telo, 2003, p. 355).

Thirdly, concerns of internal turmoil emerge, forcing the Army to intervene internally to contain political instability and chaos.

Thus, on the *threat* indicator, Amaral (1907, p. 15) and Esteves (1908, p. 31), consider Spain to be the only threat to national interests, but disagree on how best to prevent that threat. Admiral Ferreira do Amaral considered it impossible to sustain a Spanish invasion without English support and, if necessary, sovereignty should be assured through the defense of the capital, based on the Lisbon Entrenched Field (LEF) (Amaral, 1907, p. 52).

Raul Esteves was of the opinion that the Spanish threat had to be neutralized near the border, if possible. National forces should be organized to initially be able to respond to any surprises, and in a second phase, ensure a delaying effect meant to slow down the march and wear down the invader, and only in a third phase hold a solid defense based on the Torres Vedras Lines and not on the LEF (Esteves, 1908, pp. 93 e 244).

On the *influence* indicator, Prussian victories over the Austrian Empire and over France in the 1860s and 1870s strongly marked the military thinking of the time. Raul Esteves, a faithful follower of Clausewitz, was revealed as a pure attacker who believed that defensive warfare led to a spirit of moral inferiority. To Esteves, even when outnumbered the duty was to attack, as only an offensive spirit could lead to conclusive outcomes. History demonstrates that weaker armies have inflicted defeats on stronger armies thanks to the offensive, while on defense, lower forces managed to repel superior forces, but never obtained a conclusive result (Esteves, 1908, p. 384).

### **b. Military Strategy**

The *domestic level* indicator shows that the employment of the army was looked at from the same perspective as during the period of the monarchy. The strategy of employing forces in defense of the territory is reinforced in the 1911 bill, with the LEF remaining the central element in the defense plan (Telo, 2003, p. 364).

In case of an attack on national territory, the Portuguese strategy contemplated a set of coverage forces, to be conducted by the eight divisions positioned on the mainland, in such a way as to cover the main axes pointing towards the capital. These forces were responsible for delaying the opposing forces as far as the LEF, the only place where they would be opposed by a serious defense. The purpose of this maneuver was to gain time until foreign aid, which could only come from England, arrived, leaving the capital at the reach of the far more advanced artillery of the time (Telo, 2003, p. 358).

Regarding the *international level* indicator, Portugal made a clear shift in military strategy towards Africa in 1890, although its presence was felt across the overseas territory, especially in India. The British ultimatum<sup>2</sup> of that same year supported the conclusion that either the coastal overseas territories were rapidly occupied, or the empire was lost. During this period, it is worth mentioning the use of the Colonial Army in the pacification campaigns in Angola and Mozambique.

### **c. Tactical Level Doctrine**

The Republic kept the doctrine of the Monarchy, despite the Army reorganization, as there had not been a retrofitting of the Army to justify doctrinal changes since 1908.

The tactical level doctrine coincides with the military thinking of Raul Esteves. It was a doctrine clearly focused on the offensive, relying on the principle that to succeed in war, it was necessary to exert an unequal action on the enemy in order to concentrate more forces on a decision point, which was only possible in offensive operations (Secretary of State of War Affairs, 1906a, p. 186).

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<sup>2</sup> On January 11, 1890, Great-Britain launched an ultimatum to Portugal, demanding a retreat from the overseas territories, a result of Portugal's attempts to connect Angola to the counterscarp and that ended up aggravating Great-Britain. Relationships with the old allies would only return to normal in 1899, with the Windsor treaties (Lousada, 2007b, p. 47).

### (1) Offensive Operations

When on the offensive, units distributed their forces along two tactical lines, wherein the first was divided in two echelons. The 1st echelon was composed of a line of light infantry and 1st echelon battalion reserves, reconnaissance, and combat preparation and execution forces. The 2nd echelon was constituted of the 1st echelon reserves, who were in charge of supporting the 1st echelon of the 1st tactical line.

The 2nd tactical line was composed of the unit's general reserves and was designed for protection of the 1st tactical line, or of other missions that might arise during the operation (Secretary of State of War Affairs, 1906th , pp. 184-185).

Regarding the *phases of the operation* indicator, the doctrine of the time described four phases. The first phase was designated *Combat Preparations* and was intended to guide the command, ensuring that it had the time and space required to develop combat formations (Secretary of State of War Affairs, 1906th, pp. 186-187).

In phase two, *Preparatory Combat*, the 1st echelon battalions adopted combat formation and advanced on the enemy, taking advantage of the terrain and opening fire whenever necessary to overcome enemy resistance. In this forward motion, where march was carried out through successive sections, they repelled the enemy Advanced Outposts (AO), occupying them and preparing their defense (Secretary of State of War Affairs, 1906th, pp. 187- 90).

The following phase was *Decisive Attack*. The units responsible for this action approached the enemy by routes under cover from fire and view, until they reached a shelter, as close as possible to the enemy position, waiting there to be called into action (Secretary of State of War Affairs, 1906b, pp. 145-50).

If the attack was not successful or if the commander decided to abandon the action, the *Retreat* phase would be entered. It could take two forms. In Forced Retreat, forces did so in an organized manner, supported by forces at the rear. Voluntary Retreat was conducted after the evolution of the Advanced Guard (AG), but prior to commitment at the front-line, masking the intention of retreating through use of intense fire (Secretary of State of War Affairs, 1906th, p. 191).

Regarding the *forms of maneuver* indicator, the tactical doctrine of the time included only two. A *Frontal Attack* on successive lines along the front, which could be combined with a secondary attack on one flank, or a *Flank Attack* as the main attack, combined with a secondary attack along the front.

If the main attack was carried out on the front-line, where the forces responsible for *Preparatory Combat* operated, then the forces who executed the decisive attack would follow at the rear. If the decisive attack occurred on one of the flanks, it would be coordinated with the frontal attack, moving towards the objective with successive reinforcements of the line of fire until the assault was launched (Secretary of State of War Affairs, 1906th, pp. 190 -191).

## (2) Defensive Operations

On the *phases of the operation* indicator, five phases are worth mentioning.

In phase one, *Combat Preparations*, the forces of the Advanced Security Outposts (ASO) would engage in combat, with the purpose of gaining time for the command to make the necessary arrangements on the main defensive line. Then, the Advanced Position Outposts (APO) forced the opponent forces to delay their movements and to reveal their intentions.

In phase two, *Preparatory Combat*, the 1st echelon battalions of the 1st tactical line abandoned the concentration or column formations and held positions at the rear of the sectors, behind the main line of resistance, occupying only the support points and flanks at the front while enemy direction had not been properly ascertained. When it was determined, they occupied their positions, opening fire as soon as the enemy was within range and delaying its movements. The 2nd echelon battalions of the 1st tactical line were close to the 1st echelon battalions, reinforcing their fire or enabling them to develop an offensive movement (Secretary of State of War Affairs, 1906th, pp. 194-197).

Next came the third stage, the *Counter-Attack*. This attack was carried out when the enemy had been worn out by the predominance of defensive fire, when the enemy was showed hesitation, or when the fire ceased in order for the assault to be launched. The *Counter-Attack* could be partial, if it developed over a section of the front line and by order of any sector commander who possessed partial reserves, or general, when performed by general reserves under order of the force commander. It would be carried out in accordance to the rules for decisive attacks, with the defense line forces working as combat preparation forces, and the reserve forces as decisive attack forces (Secretary of State of War Affairs, 1906th, pp. 197-198).

Phase four was called *Offensive Return*. If the assault force occupied the position, forcing the retreat of friendly forces, the reserves and the forces less wearied by combat were employed to regain lost ground.

The final stage was designated *Retreat*, and was executed to prevent a clash, or in case the forces were repelled by opposing troops. Retreat of the infantry was supported by artillery fire (Secretary of State of War Affairs, 1906b, pp. 158-161).

Regarding the *forms of maneuver indicator*, although the regulations of the time do not explicitly mention it, we inferred from the analysis performed that there was only one, the *Defense Position*. It was more or less linear, depending on the terrain where it was carried out, but it would always be organized in a safety area, where the ASO and APO were distributed, and a defense area where the main resistance was conducted (Secretary of State Business of War, 1906th, p. 194).

## 2. THE FIRST WORLD WAR PERIOD

*The army of 1914 is not the citizen and militia force dreamt of by the Republic, but it is also not the disciplined, united and cohesive Army raised by D. Carlos.*

Telo, 2013

### a. Military Thinking

Portuguese thinking was of the opinion that conflicts between continental powers could only be solved in European space, but despite this perspective, conflicts with Germany began in the overseas territories in 1914, after Germany had begun building a true colonial empire in 1881 (Arrifes, 2004, pp. 95 and 97).

The German threat emerges on the *threat indicator*, in addition to the still-present Spanish threat. The threat became official on March 9, 1916, with the declaration of war by Germany to Portugal in virtue of the imprisonment of German ships in Portuguese ports, at the request of England and on behalf of the alliance (Martin, 1945, p. 519).

On the *influence indicator*, we took into account that although military thinking during WWI was similar to that of the previous period, the way war was conducted was marked by the events of Trench Warfare going on in the European Theater.

On October 10, 1914 the British government requested Portugal to leave its neutral position, driving three officers of the General Staff to go on mission to London to discuss the details of a cooperation with the British State, resulting in a series of events that led the country to cede ordnance to England, for use in South Africa and for the preparation of an Auxiliary Division for eventual participation in the European Theater (Martin, 1945, p. 518).

### b. Military Strategy

The 1911 reorganization resulted in an Army much more oriented towards the defense of national territory, albeit with major limitations, than towards foreign intervention, including in colonial territories (Afonso and Gomes, 2003, p. 101). Still, after the declaration of war by Germany to Portugal, military strategy at the *international level indicator* included the use of forces in the European Theater, at the request of England and France. Portugal accepted, pursuing its own national goals of securing possession of the colonies, creating conditions to eliminate the threat from Spain, and strengthening the young Republic internationally. In addition to the European theater, the Colonial Army continued to be employed in the overseas territories, mainly in southern Angola and northern Mozambique, but also in the remaining territories of the empire.

At the *domestic level indicator*, use of the Army in defense of the territory remains unchanged when compared to the previous period under analysis.

### c. Tactical Level Doctrine

In 1916, the PEC, acknowledging that the doctrine in effect would not be appropriate to the war that was taking place in Europe, published a field manual targeted at this type of conflict caused by three major factors: continued proximity of opposing forces; the length of time during which the forces occupied, generally, the same ground; the forced execution of frontal attacks while the two belligerents remained on the defensive (PEC, 1916, p. 3).

These factors turned the primitive trenches of the Monarchy's tactical doctrine into a complicated entrenchment system, with a layout and organization strongly influenced by the nature of the opposing artillery.

In this kind of attrition warfare, artillery could maintain a live fire in all infantry actions, which would not be possible in a war of movement due to reloading issues. Consequently, artillery was able to quickly execute a barrage in front of any attack, which led to surprise attacks, and as such the trenches from which the attack was launched cannot be too distant from the enemy. The shape of fortifications in the WWI campaign is a consequence of the resources employed (PEC, 1916, pp. 3-5).

#### (1) Offensive Operations

On the *phases of the operation* indicator, PEC doctrine included three phases.

*Attack Preparations* were initiated several weeks before combat and implied a reconnaissance of the enemy trench system through constant observation and use of reconnaissance patrols. The enemy's defensive scheme was also studied through the observation of aerial photographs taken from aircraft (PEC, 1916, p. 52).

Once reconnaissance was performed, a plan of attack was devised, followed by a period of instruction. This first phase also included the preparation of trenches for the attack, initiated long before the day of the attack, so as not to reveal their true intent to the opponent (PEC, 1916, p. 53).

In phase two, an intense *Preliminary Bombardment* was conducted by the artillery with the purpose of destroying the enemy defenses, especially support points and machine guns, along with mortar, infantry and grenadier fire, to prevent the reorganization of the enemy defense (PEC, 1916, pp. 55-56).

Phase three was the *Assault*. Artillery lengthened their shots in order to prevent possible enemy reinforcements. The assault troops were composed of successive linear waves, spaced about 45 meters apart, with two meters between each man. The number of waves depended on the objective. The infantry marched towards the enemy trench at a moderate and orderly pace, maintaining the line of attack (PEC, 1916, pp. 56-57).

Regarding the *forms of maneuver* indicator, from the previous description we can clearly infer that there was only one form of maneuver for offensive operations, the *Frontal Attack*. This attack was executed by infantry forces and supported by artillery fire and machine guns.

## (2) Defensive Operations

Regarding the indicator *phases of operation*, the PEC doctrine manual describes them in enough detail for us to infer that operations unfolded in three phases.

The first consisted in the *Temporary and Partial Evacuation of the Front Line*, as a large scale attack was usually preceded by heavy bombardments that could last for days. The infantry temporarily evacuated the front-line, with the exception of support points and strong-points.

In phase two, *Defense of the Defensive Sector*, infantry sustained the front-line support points to the last possible moment, even at the risk of involvement, as those support points forced the enemy to divide their forces, contributing to the success of a subsequent counter-attack, as the PEC doctrine assumed that the Germans' *modus operandi* was to send out a small number of soldiers, and only in case of success did they send more forces (PEC, 1916, p. 51).

Phase three, the *Counter-Attack*, was designed to repel enemy forces that managed to penetrate the friendly lines and was performed through a attack planned by infantry in coordination with artillery fire (PEC, 1916, pp. 49-50).

In the *forms of maneuver indicator*, PEC doctrine included only one form of defense. It consisted of a *Position Defense*, with the main area of resistance based on the forward line of defense and forces distributed in depth (PEC, 1916, pp. 3-5).

## 3. THE APPLICATION OF DOCTRINE DURING THE FIRST WORLD WAR

### a. Training

*The training received in Tancos proved to be grossly inadequate to the trench war in Flanders, the ordnance was different, the uniforms worn in war were not the same. In conclusion, it was Portuguese style training for an English style war.*

Lousada, 2007

The 1911 reorganization was aimed at implementation of the concept of a Nation in Arms framed by militia officers and a small number of professionals. The militia officers school established by the Army reorganization did not work as planned. The reduction in effective officers was negligible and the spirit of a universal and compulsory military service was only followed after Portugal entered WWI (Telo, 2013th). The training served to legitimize the Republic, instead of preparing the Army for their specific purpose (Martin, 1945, p. 503).

In 1916, measures required by the state of war were initiated with the preparation of forces for the defense of the capital. In Tancos, an Auxiliary Division underwent preparations for eventual employment inside or outside the territory, as circumstances demanded (Martins, 1945, p. 519).

Concerning the specific training of the PEC, Lousada (2007, p. 116) mentions "...one Army Corps of 55 000 men. That personnel was inadequately prepared in Tancos, because drills consisted of forced marches for infantry, strenuous cavalry exercises and fire preparations carried out with weapons that would never be used in Flanders..."

Upon arriving at the Flanders theater of operations, the Portuguese forces were given special instruction by the English, on modular instruction fields and within the English brigades where the Portuguese battalions were integrated. Only after this adjustment period did the Portuguese forces take the front. The first Portuguese forces arrived at the theater of Flanders on February 8, but it was only on May 30 that the 1st trained Portuguese brigade took the front (Martins, 1945, p. 521-522).

Training also did not go according to plan at the Flanders theater. Constant changes in cantonment location during the preparation period, to the detriment of education and training, constant difficulties with equipment, lack of instructors and lack of clear instructions by the English, who gave premature orders to battalions that were not ready to march to the trenches, contributed to training being conducted in a disorderly and inconsistent fashion (Monteiro, 1918, p. IV).

The PEC organization was fully adapted to the British organization, with the Regiment unit being replaced by brigades at four battalions (Martins, 1945, p. 523). The first forces set anchor in Brest on February 2, 1917, still with the Portuguese organization, and by the 20th of the same month, the reorganization was in effect (Costa, 1920, p. 19).

## **b. Combat Operations**

*And so, with the weight of the German offensive of April 9 coming down mainly on the Portuguese sector, garrisoned by numerically inferior forces, demoralized by various reasons, it shouldn't seem strange that they yielded.*

Gomes da Costa, 1920

At the tactical level, the PEC employed the doctrine imposed by the British in their operations, a doctrine that was used by all allies, according to the concept of parallel order of war (Jomini, 2008, p. 144). The defense plan of the divisions was extracted from the defense plan of the corps, that in turn was a translation of the British plan, including:

A First Line of Defense, in charge of divisions, with the front between 80-250 meters of "no man's land", consisting of three lines of trenches: Line A, more advanced, was discontinuous and was protected by a triple strip of barbed wire, with rows separated by 10 meters; approximately 300-800 meters from Line A was Line B, a more robust and continuous line, flanked by heavy artillery and protected by barbed wire, with depots for ammunition, food and shelter for the men. This was the main line of resistance; Line C, 500 to 800 meters to the rear of Line B, was meant to receive troops from Lines A and B, and it consisted of small constructions, where the battalion commanders were positioned (Costa, 1920, pp. 63-64).

The Intermediate Line was distributed 2.5 and 3 km to the rear of the First Line of Defense. It was the responsibility of the corps and was known as the Line of Villages, as it was composed of a combination of villages and ruins, and was in actuality a line for division reserves to keep one of their brigades and where machine guns were aligned to scout the routes inside the position (Costa, 1920, pp. 66-68).

About 6 km from the Line A, composed of large campaign fortifications connected to the lines of communication to the west, was the Second Line of Defense (Lousada, 2007a, p. 117). This rearguard line was the responsibility of the Army.

During offensive operations, the basic infantry unit was the platoon. Its regular formation in combat was an extensive formation in two lines that formed one row, comprising an assault wave. Each of these lines was formed by snipers, machine-guns and grenadiers (Costa, 1920, pp. 58-59). Lousada (2007a, p. 107) states that the grenadiers and light machine guns moved up the flanks and that these waves were usually thwarted by the defensive positions, which were strongly organized.

In the European Theater, the First World War was characterized by devastating fire by rapid-fire artillery, by the large-scale emergence of machine guns, by the aerial component and by the use of gas. These technological developments paralyzed the battlefield, turning a war of movement into a static war of pure attrition. There were, however, some attempts to break the trench lines and to break the immobility of the battlefield. The first attempt took place in 1915, at the Ypres front, with the use of gas by the Germans against the Canadians, a tactic they would later use across the whole front-line. The second attempt was perpetrated by the British in the Somme, through the employment of Combat Vehicles (CV) with the purpose of breaking the German lines. The CV came out in force in 1917 at the Battle of Cambrai, but were also unable to overcome the immobility of the war, as artillery minimized their power. The third attempt came with the emergence of the aerial component.

The key to breaking the immobility of war would be the combination of all these systems, although this combination only emerged during a very late stage of the conflict (Henriques, 2013).

#### **4. THE POST-WORLD WAR I PERIOD**

15 years after WWI, further changes were made to the Army organization (Decree 11: 856, 1926) in order to adjust it to the requirements of modern warfare. The teachings of the latter became a part of this organization, always taking into account the country's foreign and national policies, especially economic and financial conditions (Ministry of War, 1926, p. 706).

These reforms changed some aspects of the 1911 militia system, adopting a mixed system in the English style, borrowing some points from the new French army organization regarding territorial organization and doctrine. The country, divided into eight division districts, was now organized in four regions and a military government (Ministry of War, 1926, p. 708).

New units were also created, and others were changed. Regarding doctrine, Decree 11:856 states that, compared with its 1911 counterpart, there were only some differences regarding

technology and the order in which the different elements of the Army were listed, and the importance of arms in combat was taken into account (Ministry War, 1926, p. 707).

### **a. Military Thinking**

On the threat *indicator*, avoidance of the imminent Spanish danger in the peninsula was one of the major political rewards that Portugal gained from participating in WWI (Lousada, 2007a, p. 119), but the Portuguese-Spanish tension remained, mainly the result of differences in political regimes. According to General Loureiro dos Santos, the Spanish threat was a constant throughout the country's history, except in the period between the formation of Portugal and the reign of D. Dinis (Santos, 1991, pp. 67-69).

Threats to national interests from any European power in the colonies ceased to exist, as a result of the agreements signed in the postwar period. Silva (1924, pp. 127-130) states that the country should focus on the defense of the mainland, through a policy of deterrence against Spain, and on the stabilization of the overseas territories.

Regarding the *influence* indicator, the main contenders in WWI had different perspectives on the war. New currents of military thinking emerged, more focused on a perspective of global war, that would strongly impact warfare in the interwar period and in the Second World War (WWII). "*Clausewitz rejected the idea that there was an ingenious way of disarming and defeating the enemy without too much bloodshed, and that was, appropriately, the trend in the Art of War. (...) His teachings, handled by thoughtless disciples, served to incite generals to seek battle at all costs, instead of creating an advantageous opportunity to dispute it (...) the art of war was reduced, in 1914-18, to a process of mutual carnage*" (Liddell Hart, 1982, p. 237).

Countering this *Clauzewitzian* ideology, British military thinking began to focus on resources and was based on the classic doctrine, which had rested, since the seventeenth century, on a trilogy of alliances, siege and attrition (Kennedy, 1991, pp. 11 and 29). At the core of this ideology was the thinking of Liddell Hart, which was based on a war of attrition through actions peripheral to the actions of allies, on command of the sea and of the world trade, so as to ruin the opponent's military and economic stability (Duarte 2009, p. 42).

For American military thinking, the issue of resources was also crucial, but unlike English thinking, the way of conducting warfare was not confined to wearing down the enemy, but rather to beat it as quickly as possible through a large concentration of military power. This military power was the result of having more resources, namely technological, demographic, military and economic (Duarte, 2005, p. 43).

The French military thinking was decisively marked by fire. Fire became the predominant element of war and of an overlap in defensive and offensive doctrines. To Marshal Foch, the offensive only made sense when the terrain was favorable and there was the possibility of large fire preparations, otherwise the defense would prevail. This way of thinking explained the construction of the Maginot Line that was, to the French, the only way of fighting a German offensive, given their lower technological, industrial and demographic power (Duarte, 2005, pp. 43-44).

Notwithstanding France's smaller power in relation to Germany's, that power was used during the first decade that followed WWI to guide France towards an offensive doctrine, on the grounds that only by attacking Germany would it be possible to face the greater German power. In other words, France's smaller relative potential guided it towards an offensive posture in the 1920s and towards a defensive doctrine in the 1930s (Kier, 1996, pp. 188-190).

The keyword to German military thinking in the postwar era was "material" (*materialschaft*). It should be understood in three ways: as a resource, as a technology and as a dynamic (which encompasses the former two and refers to movement).

To Geyer (1996, p. 538), Germany replaced strategy with a technocratic principle that rested on the technical dictatorship of Hindenburg and Luddendorff. Machines afforded movement and technology allowed for speed and quickness in action. For the Germans, the military thinking that came out of WWI combined Moltke's old traditions, such as *Schwerpunkt* (center of gravity) and *Auftragstaktik* (tactical directive) with the new tactics developed by the infantry in WWI, *Stosstrupp tactics* (assault/stormtroops). This new doctrine, called *Bewegungskrieg* (war with movement) was based on a tactical doctrine of great maneuverability and close cooperation between all arms (Citino, 1999, pp. 43-45).

Russian military thinking was based on mass warfare. Massification stems from three dimensions: geographical, human and technological, and stipulates a demographic massification of resources and motion. The Russian operational art was based on land and air forces capable of achieving strategic objectives. As for the doctrine, it was comprised of successive, interconnected operations aimed at the in-depth destruction of the enemy (Duarte, 2005, pp. 46-47).

As for Portugal, the 1926 Decree assumes that the previously described English and French ways of thinking are the strongest influences in the reorganization of the Portuguese army, regarding organization and doctrine. Even so, the reorganization of 1926 did not contradict the fundamental tenets set down in 1911, making only one adjustment to the Army, in order to adapt it to the economic realities of the country and to the evolution of the weapons industry (Ferreira, 2007 industry, p. 265).

### **b. Military Strategy**

At the *domestic level*, few alterations were made to the country's defense strategy. The defense of national sovereignty would still be ensured by the capital's defense forces, but given the greater range of weapons, the defense plan relied both on the defense of the Lisbon and Setúbal ports and on the land forces at the capital, supported on both banks of the Tagus river. Perception of the fact that "the Germans had emphasized their preference for new kinds of campaign fortification works" (Beça, 1919, p. 454), caused the abandonment of the concept of a defense based on large fortifications.

On the *international level* indicator, Army employment ceased to include a presence in the European Theater, but maintained a policy of assertion in the colonies. In fact, colonial assertion would be a part of Portuguese strategy not only in the years that followed WWI, but also during the period of the military dictatorship and of the New State (Teixeira, 2003).

### c. Tactical Level Doctrine

#### (1) Offensive Operations

When on the offensive, the combination of resources was aimed at possession of the terrain occupied by the enemy, at disrupting enemy forces, and at expelling and pursuing the enemy (Army General Staff, 1935, p. 83).

There are four phases to consider in the *phases of the operation* indicator. *Combat March* was the first stage and it was intended for moving troops to where they were needed. It consisted of Foot Marches as well as Transports in railways or vehicles, generically designated as "Movements" (Army General Staff, 1935, p. 92-98).

Then followed *Combat Preparations*, which aimed to secure the bulk of the enemy forces. If the opponent was in motion, the first concern would be to stop enemy progress and ensure possession of a line along which forces could develop. If the opponent was in a fixed position and had a system of fire adapted to the terrain, precautions would be increased during approach, but the attacker was able to perform reconnaissance of enemy positions and methodically carry out preparations for the attack (Army General Staff, 1935, pp. 108-111).

The *Development of Offensive Combat* was the third phase of the operation. Development was achieved in the form of juxtaposed, successive or simultaneous attacks, in order to conquer enemy terrain, to annihilate the enemy's capacity for resistance, to disrupt enemy forces, driving them out and then giving pursuit.

The following stage was the execution of the attack, in which units moved in sections until they reached the enemy and launched the assault (Army General Staff, 1935, pp. 127-131).

*Success Exploitation* and *Pursuit*, the fourth and final phase of the offensive operation, had the purpose of increasing enemy disorder and preventing the regrouping of their forces (Army General Staff, 1935, pp. 145-146).

As for *forms of maneuver*, two forms were described: the *Frontal Breakthrough Maneuver* and the *Flank Maneuver*.

The *Frontal Breakthrough Maneuver* was employed against an enemy occupying a defensive front and consisted in acting strongly on one point of the front, in order to separate enemy forces into two cores, acting frontally and from the flank on one core while holding the other with the necessary forces (Army General Staff, 1935, pp. 84-85).

The *Flank Maneuver* was executed against the enemy flanks, in order to circumvent their defenses and strike their vital communications, or in the gaps between forces, in order to separate, disrupt and threaten their rearguard. This maneuver was characterized by the combination of two directions of attack, front and flank, and was grouped into Convergent Maneuvers, Overflowing Maneuvers, Skirting Maneuvers and Flanking Maneuvers (Army General Staff, 1935, pp. 86- 89).

#### (2) Defensive Operations

A defensive posture was adopted when there was a need to gather resources to execute offensive operations. It was therefore necessary to resort to defensive operations at certain

points of the front, since they required less offensive resources (Army General Staff, 1935, p. 151).

On the *phases of the operation* indicator, the doctrine did not explicitly present the phases of the operation, but the description provided in the Operations Regulation leads us to infer that the implementation of the defense plan was divided into five phases .

The first stage consisted of *Preliminary Combat*, at the the resistance zone front, in the AO area, and its purpose was to delay and disrupt the enemy (Army General Staff, 1935, p. 174).

The second phase, *Preparatory Combat*, was the execution of Interdiction Fire before the enemy forces had developed into combat, with the purpose of delaying their development, followed by *Counter-Preparation*, designed to disrupt the enemy forces and neutralize their essential organs.

The following phase was *Sector Defense*, where the troops were engaged in close combat in an attempt to repel the attack.

The fourth phase was *Counter-Attack*, carried out to recover lost ground. If the enemy had succeeded in their attack, the fifth stage, *Retreat*, would follow, rallying the forces at the rear, at a distance that allowed the defender to regroup and receive reinforcements (Army General Staff, 1935, pp. 183-184).

When the objective was capturing the enemy, the defense was organized in depth to allow the reestablishment of the front as soon as a breach was detected. On the other hand, if the goal was only to gain time, resistance was temporary, and the firepower at the front of the troops was more important than scaling resources.

In the *forms of maneuver* indicator, the defense presented two kinds of maneuver, conditioned by the space available for implementation: the *Static Defensive Maneuver* (which consisted in occupying, organizing and defending a position where a given direction required a blockade (Ministry of War: Army General Staff, 1935, p. 154) and the *Mobile Defensive Maneuver* (where occupation of a defensive position was conducted along the depth of the available space (Ministry of War: Army General Staff, 1935, p. 152).

Because of the different ranges of weapons, firepower was organized into three zones: an artillery fire zone, a zone of combined infantry and artillery fire, and an infantry fire zone. The combined area of fires was where you could make the most use of machine-guns (Army General Staff, 1935, p. 156).

The position was organized into two zones: the zone occupied by infantry (which included the resistance and the AO positions) and the area occupied by the artillery. The resistance position was a key part of the defensive position, and its outer edge was the Main Line of Resistance (Army General Staff, 1935, pp. 189-190).

The second form of maneuver was the *Mobile Defensive Maneuver*, subdivided into two kinds: Retreat and Retreat Maneuver. Retreat consisted in an involuntary retrograde motion, with the purpose of taking forces from the front, where the ability to resist was no longer effective (Army General Staff, 1935, pp. 194-195).

The Retreat Maneuver was a retrograde movement, executed voluntarily, with the aim of gaining time by forcing the enemy to successive developments, or luring them into a

previously selected battlefield. This maneuver was conditioned by the time that was needed, by the space that was acceptable to lose, and by the resources that could be committed (Army General Staff, 1935, p. 198).

## **CONCLUSIONS**

The methodological approach used in the present paper allowed us to conclude that Spain has presented itself, during all periods under review, as the main threat to Portugal, significantly influencing national thinking on warfare; in fact, employment of military forces is always conditioned by existing threats. In face of this threat, the military organization of the mainland was, in all periods under review, focused on defending the territory against the Spanish threat. The military territorial organization was the expression of this thinking.

As for the implementation of the doctrine in training, we concluded that training was not only insufficient, but was also not conducted in accordance with the doctrine, in particular regarding the preparation of the PEC on national territory. It is of interest to look at the reasons for this situation. The answer lies in a set of factors that, together, contributed to disaster: first, the transformation that the First Republic wrought on the Army, affecting cohesion and operability; on the other hand, the majority of effective officers was admittedly composed of Africanists who opposed Army presence in the European Theater; additionally, the PEC officer corps consisted mainly of militia officers with limited technological expertise. These factors, allied with the short life of this doctrine, resulted in an ineffective integration into training.

Regarding the application of doctrine in operations, the subjugation of the PEC to the English doctrine was evident. Nevertheless, the similarity of this doctrine with the PEC doctrine was obvious, by virtue of the PEC doctrine having been created for possible application in WWI. Thus, we conclude that the PEC fought in accordance with their doctrine, although its contents were relatively unknown to the majority of military personnel. A large part of the PEC personnel only had contact with the doctrine at the theater of operations, upon integration and training within the English units.

The second specific aim of this study refers to the main alterations brought by WWI in LF employment doctrine. We inferred that the lethality brought to the battlefield by machine guns forced the Armies to burrow for protection, a fact which transformed a war of movement into a war of position. The stalemate was only broken when the conflict evolved again into a war of movement through the combined use of aviation, CV, chemical agents, rapid-fire artillery and radio communications. Motorization and technology forced a return to a war of movement that, enhanced by these new elements, transformed the battlefield, increasing its depth and width.

At the tactical level, a greater dispersion of forces, the ability to move in a coordinated fashion and in real time, the enormous reach and lethality of weapons and the ability to influence the battle in depth, especially with the use of motorization and aviation, altered the tactics used in Frontal Attacks, which were focused on a single point with the purpose of separating opposing forces into two cores, then defeating them separately, instead of the

previous attacks carried out by sections and along most of the front-line. Still at the offensive operations level, these elements potentiated the emergence of four new variants of the Flank/Wing Attack: the Convergent Maneuver, the Overflowing Maneuver, the Skirting Maneuver and the Flanking Maneuver.

Defensively, it forced the evolution of a linear defense to a defense in depth and to the emergence of Mobile Defense. Another important change resulting from technological evolution and motorization refers to the disappearance of the cavalry from the battlefield as a decisive weapon, as combat would be decided by armored forces, accompanied by infantry and supported by aviation.

Regarding the general purpose of this study, we concluded that combat experience in WWI significantly marked the LF employment doctrine, but technological evolution was even more decisive.

The teachings of the Civil War, of the Boer War and of the Russian-Japanese War were not properly assimilated by Europeans. This devaluation conditioned European war schools to a tactical teaching that was out of sync with technological evolution, resulting in Napoleonic tactics being applied during WWI, against fixed enemies on prepared ground and in possession of rapid-firing weapons. This would be the perfect recipe for disaster. These Napoleonic tactics used against machine-guns forced the Armies to burrow for protection. It was this stalemate that led to the development of new weapons and new methodologies to overcome the immobility of the war.

First emerged the chemical agents, then the CV and finally the airplane, but it was the joint use of those resources, coupled with machine-guns and the widespread use of communications that won over the immobility of WWI, directing military thinking to resources and back to a war of movement.

Use of forces at the *domestic level* continued to consist in the defense of the capital, but the last-stand position was extended relatively to the prewar period. This change happened for two reasons: the first concerned the experience in WWI, which showed that the Germans had particular interest in executing massive fire on large fortifications, which led to the abandonment of the large-scale works of the LEC; the second concerned technological evolution, as the greater range of artillery forced defense positions away from the capital.

At the *tactical level*, the war of movement brought along a return to the perpendicular formations used in the prewar period, and an abandonment of linear formations.

The postwar offensive doctrine demonstrates a complete break with the doctrine and operations of the War period and an unmistakable similarity to the period at the end of the Monarchy. In pre- and post-war periods there is a clear offensive spirit and doctrine is directed towards a war of movement.

The evolution of *forms of maneuver* is also a result of technological developments. The emergence of aircraft, CV and motorized transport allowed for faster movements and greater protection, enabling a deeper kind of combat, forcing the doctrine to evolve in order to keep up with the developments provided by technology.

The *defense* also underwent considerable evolution. It went from a linear defense to a defense in depth based on firepower, in particular machine-guns and artillery. The defense in depth was one of the recognizable consequences on post-war doctrine, while not being a direct result of the war, but the result of the technological developments it inspired. This evolution was the reason for the doctrinal evolution that took place in the Army reorganization of 1926.

We believe that, even if Portugal had not participated in WWI, the technological developments that occurred there would have forced the doctrine to evolve, adapting and accompanying technological developments. War, especially for those who fought on the European front, significantly altered the military mindset, especially regarding the technological aspects.

The war was undoubtedly a catalyst for technological development, but it was technological developments that definitively forced doctrinal thinking to change. It was firepower, especially machine-guns, which broke with the perpendicular and oblique formations of the war, as combat began to occur along a parallel model that paralyzed the battlefields of Europe for almost four years, turning a war of movement into a war of position.

But it was also firepower, especially when employed in different combinations of land force weapons with the aerial vector, which conquered immobility, with an emphasis on movement instead of attrition, and a return to perpendicular and oblique models instead of parallel. This WWI embryonic concept that employs land forces in combination with the aerial vector would be developed in the following decades, reaching its peak in WWII and lasting to the present day.

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