

# THE EVOLUTION OF THE CONCEPTS OF USE OF ROMANIAN AVIATION IN THE TWO WORLD CONFLAGRATIONS AND IN THE INTERWAR PERIOD

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***Abstract:** Romania has dedicated to world aviation top personalities such as Traian Vuia, Aurel Vlaicu and Henri Coandă, being among the first countries in the world not only in the construction of aircraft lighter or heavier than air, but also through the procedures of conquest of airspace. Romania - as a country with significant possibilities in the field of aeronautical construction and the use of aviation for military purposes - has paid the necessary attention to capitalizing on its own and international experience. Thus, between the two world wars, in our country the concept of aviation use in combat experienced an evolution corresponding to the policy of that period of the Romanian state.*

***Keywords:** Romanian aeronautics, military airfield, reconnaissance, air bombardment, air corps*

## 1. INTRODUCTION

Romanian historiography mentions the establishment of the first military air subunit in 1893 in Bucharest, the inauguration of the first acrodrome (with related structures) of the Romanian aviation on June 11, 1910, in Chitila, on October 10, 1914 the first participation of the Romanian aviation in military maneuvers - with missions reconnaissance, observation and aerial photography and the first combat mission on August 16, 1916, south of the Danube, immediately after Romania's entry into the war, a mission that aimed to recognize the enemy device.

An important date in the history of Romanian aviation is the day of August 10, 1915, when based on Decree no. 305, the Romanian Air Force is created, consisting of three groups and a reconnaissance squadron, which will total, until Romania's entry into the war, 44 aircraft and 97 patented pilots. This is the reference point that marks the beginnings of the organization of modern Romanian military aviation.

## 2. ROMANIAN AERONAUTICS IN THE CAMPAIGNS FROM THE FIRST WORLD WAR AND INTERWAR PERIOD

**In the first part of the campaign from 1916**, the Romanian aviation fulfilled missions in accordance with the way of organization and endowment, but also with the flight experience of the flight personnel. Predominant were the missions of reconnaissance and observation of the enemy device, of the concentrations of troops and of the activity of the ships on the Danube. They were followed by liaison missions.

The bombing missions were reduced, because in the first months of the war the aviation did not have airplanes capable of fulfilling such a mission. However, those that were executed were well prepared and performed with sufficient precision at the target. The beginning of the war also highlights the beginning of the air battles with the enemy's fighter aviation.

**The second part of the campaign** highlights - with the arrival in the country of the French mission - essential changes in the equipment, organization and conception of the use of military aviation in combat. The new aircraft, of French production, were equipped with improved flight equipment, with weapons and bombing installations diversified according to its purpose, in other words, the technical-tactical characteristics of the aircraft were close to those then existing in the endowment of belligerent countries.

From an organizational point of view, the subordination of squadrons or aircraft formations to ground command commands for observation and reconnaissance missions in distinct areas of responsibility should be noted.

Novelties are also found in the concepts of use. Thus, for the defense of Bucharest, forces are assigned (a squadron of 8 aircraft) with a distinct mission in achieving this goal and which anticipates the future fighter aviation. Aviation maneuver ("retreat") from the southern area on new Moldova airfields is frequently and widely used, imposed by the unfavorable evolution of the front line and facilitated by the fact that the new landing grounds did not require infrastructure and special arrangements.

Although in the first phase of its evolution, the analysis of the organization of military aviation actions in the 1916 campaign gives contemporaries conclusions of a topical and introspective nature:

- the number of units and aircraft in their composition was very small in relation to the need for operational command commands;
- the lack of a domestic aeronautical industry was acutely felt, the completion of the squadrons with aircraft being possible only after France or the allies made the planes available, according to the concluded military convention;
- the planes that our country had, at the beginning of the war, belonged to the old types and were not armed; the navigating personnel did not have the experience of war, but neither did the combat training that the pilots of the belligerent countries had;
- the aviation activity was also burdened by the use of improvised airfields, without the necessary arrangements.

In the second half of the war, *in the 1917 campaign*, an extensive process of reorganizing aviation took place. As a result, each army had an aviation group, and at the level of the General Headquarters a reserve of two squadrons. Each group had in structure 2-3 homogeneous squadrons as type and destination: observation (Farman squadrons), hunting (Nieuport squadrons), bombing (Breguet-Michelin squadrons). In the distribution of the hunting and bombing squadrons, the principle of the importance of the front that the army had to defend was taken into account, and in the observation of the number of Army corps that were subordinated to the respective army. In essence, each group consisted of 2-3 squadrons of different categories. This conception led to the increase of the efficiency of the aviation actions, and on the other hand to the possibility of delimiting the airspace affected to each group, as an area of responsibility.

At the same time, the range was diversified and the number of missions performed increased. The largest share of actions was held by: studying the positions and devices of the enemy through systematic reconnaissance; making adjustments to artillery fire on enemy targets placed in depth; remote research behind the enemy front (up to a depth of 80-100 km) to identify reserves; aerial bombardments on enemy concentrations and airfields.

During the first great world conflagration, the Romanian aviators totaled a number of 8160 flight hours materialized in the following missions: 703 adjustments for the benefit of the Romanian and Russian artillery, 6981 aerial photography, the engagement of 560 aerial battles, dozens of bombing missions in which an impressive amount of bombs totaling 61871 kg, over 80 liaison missions and 6 special missions (manifesto launches) was launched on the opponent's targets.

In the almost two years of war, the enemy lost 41 aircraft, of which 31 were shot down by Romanian, English and French aviators, and 10 by anti-aircraft artillery. [1]

The First World War allowed the accumulation of a rich experience on the possibilities of using aviation in combat for the execution of various missions of research, bombing, to cover one's own troops against enemy air strikes. There were also some servitudes such as: a high degree of physical and moral wear and tear of the technique; vulnerability to anti-aircraft artillery fire; high technical costs and training of pilots and technical staff.

**During the interwar period**, the Romanian military aviation experienced a complex process of development and organization, corresponding to the needs arising from the new administrative configuration of the national territory, the experience gained in the war, as well as the new combat techniques that come with it, a process that took place in many stages. Technically, worldwide, aircraft production has seen a huge quantitative and qualitative leap. Lightweight and durable materials, powerful engines that increase flight speed and altitude, are increasingly used in aircraft construction. At the same time, special equipment, on-board equipment, photographic equipment, radio and radionavigation are being developed.

The flight range and, implicitly, the tactical range of the aircraft, which allow to hit targets located hundreds of kilometers behind the enemy front line, considerably increase.

The achievements in the field of aeronautical constructions determined that in the conceptual sphere to crystallize and develop new principles of aviation use in combat, which were later reflected in numerous formulas for organizing military aviation.

Large aviation units of the “*air division*” and “*air flotilla*” type were set up, some of them having in their structure also anti-aircraft artillery for the defense of the airfields.

The endowment of the units included airplanes from one or more categories of aviation, instead the squadrons, as basic subunits, were homogeneous in terms of destination and endowment. Depending on the destination, aviation included the following categories: fighter aviation, bombing aviation, dive bombing aviation, search aviation. Globally, the share of development of these categories of structure was influenced by several factors, but the most important but the most important was the military policy of that state.

The doctrine of the use of military aviation in modern warfare had three main currents at that time. One of them, promoted by the Italian General Giulio Douhet, supported the development of a strong strategic aviation for the destruction of important objectives from the depths of the enemy territory, especially the war industry. A second current, supported by the German General von Seeckt, which also gave a decisive role to aviation, especially for the early phase of the war when it was desired to neutralize the enemy's objectives, but also for the conquest and maintenance of air supremacy. The third current, inspired by the French military doctrine, attributed preponderance to the actions of fighter and bombing aviation to the detriment of other categories (reconnaissance, assault, etc.). The Spanish Civil War of 1936-1939 allowed some European countries to clarify the principles of the use of aviation in combat, to verify its qualities and to better analyze its easements.

Initially, after the end of the First World War, the military doctrine of Romania was under the influence of the French one, including on the organization of aviation, training of pilots and specialized technical personnel and material equipment.

Starting with 1926, our military doctrine begins to detach from the French one, the studies are directed towards the war of movement in which the offensive and the battle of envelopment can represent frequent situations of a possible armed conflict. Normally, compared to this new orientation, new organizational principles and endowment of the Romanian military aviation were substantiated in accordance with the new perspectives from the battlefield.

Romanian military theorists conceived that aviation actions would amplify the losses caused and be closely correlated with those of other weapons. All these are found in the Directives elaborated by the General Staff and in which it was emphasized that: *“The Romanian Air Force must thus be organized and equipped with types of aircraft, in order to be able to act on the battlefield in direct support of ground troops and perform aerial research in the depths of enemy concentration areas. At the same time, the aviation must cooperate in defending the economic centers and the Prahova Valley oil area ”*. [1]

In order to achieve these objectives, in addition to the process of organization and preparation, measures were taken to revise the Regulations of Combat, and at the Higher War School, starting with the school year 1939, an aviation department was established in which they were admitted for to be trained as staff officers only aviation officers. Perhaps this fact should be a reason for reflection for those who decide today the fate of Romanian military education.

Also as an evolutionary process, it should be appreciated that, at the level of the Ministry of War, specialized bodies for aviation management were set up: Superior Directorate of Aeronautics (1919-1923), General Inspectorate of Aeronautics (1924-1932, command and instruction body with its own staff), the Undersecretariat of State for Air (1932-1935), so that during 1936-1940 the Ministry of Air and Navy could function, then returning to the Undersecretariat of State for Air (1940) integrated in the organization scheme of the Ministry of War.

Two aspects of this period are to be appreciated. The first is organizational. The financial and industrial possibilities of Romania did not allow the realization in that period of large tactical and strategic aviation units, as they were realized in some Western European states, where the Douhet doctrine was applied. Instead, the air divisions that make up the aviation flotillas are established, characterized by a high degree of mobility and flexibility not only by definition but also by functionality. Their endowment was supported by short- and medium-term endowment plans, in relation to the requirements, financially supported with all the economic vicissitudes of the moment. At the same time, in 1936, the Iași, Cluj and Bucharest Air Regions were established as distinct areas of operations and responsibilities, with a balanced distribution of aerodromes and aviation categories in the territory.

The second aspect circumscribes the ability to predict the decision-makers. Immediately after the outbreak of World War II on September 1, 1939, *"Hypothesis 32"* is initiated. According to the stipulations of *"Hypothesis 32"*, aviation commands were organized - for the needs of large units of other categories of forces - and aviation units. Based on the provisions contained, 84 squadrons were to be established with the following structure: 5 reconnaissance (of 8 aircraft each), 20 observation of 10 aircraft each), 24 fighter jets (12 aircraft each), 16 bombing (8 each). aircraft), 6 assault (10 aircraft each), 6 connection (9 aircraft each), 2 remote connection (8 aircraft each), one transport (10 aircraft), one sanitary (16 aircraft), one torpedo bombardment (with 8 seaplanes), 2 hydroinformation (of 9 seaplanes each).

According to the provisions, the operational units had to total 838 aircraft. To these were added 332 reserve aircraft for maintaining combat capability and 350 aircraft of various types in schools for the training of aircrew.

In 1940, the Romanian military aviation had 1520 aircraft in units and in different stages of manufacture, 5 aerostation companies, 2617 pilots, 267 aerial observers, 218 on-board radiotelegraphers and 239 on-board snipers. [1]

The analysis of this period leads to the obvious conclusion that Romania was a regional air power. The main arguments of this statement are:

- military aviation developed rapidly, which allowed it to have the categories, infrastructure and aircraft (including the famous IARs built in the country), which existed in most armies, around the Second World War. modern;
- the aeronautical personnel was well trained for individual flights, in formation and for use in combat according to weather standards;
- the forces and means were sufficient to carry out the support missions of the land and sea troops and to cover their airspace and territory.

### **3. ROMANIAN MILITARY AVIATION IN THE SECOND WORLD CONFLAGRATION**

On June 22, 1941, Romania entered the second world conflagration in the known complex domestic and international conditions, but with the express specification that the territorial abductions of 1940 led to a decrease in the mobilization capacity for the Air Force by about 25%. In October 1940, the German Air Force Mission was installed in Bucharest.

As a result, the organic structure of all categories of aviation has undergone changes, usually inspired by the German Luftwaffe model.

Since 1941, the Air Force Undersecretariat has established the Air Force Command - for aviation, aerostation and aeronautical engineering - and the Air Defense Command - for air defense of airfields, land armies and national territory (important areas).

In the subdivision of the national territory there are also three air Regions, with the role of command structures that carried out the command, instruction and administration of the units and formations of aviation, aerostation and air defense in the area of responsibility. They were subordinated and were in direct contact with the Air Staff and the Undersecretariat of State for Air.

The Air Forces were organized as before, by aviation categories (fighter, bombing, reconnaissance, connection, transport, sanitary) within the aviation flotillas (fighter or bombing), and these on 2-3 aviation groups that had at turn 2-3 squadrons.

However, each Fleet is now subordinated to an Air Base, a structure that achieves the technical functionality of the units as well as the services in the composition.

This form of organization within the flotilla allowed, in various phases of the campaigns of 1941-1944, a greater mobility of the fighting forces. The flight echelon comprising the crews and aircraft was directly subordinated to the fleet commander, and the escalator, which included all technical and administrative personnel and related means were under the command of the mechanical officer (engineer) of the Base. This form of organization allowed the fleet commander to relieve himself of direct administrative tasks, leaving him time to prepare actions or coordinate combat missions.

Another significant organizational element is the reorganization of fighter aircraft, according to the German model, where the smallest organic combat subunit - the cell - included two aircraft instead of three, as it had been until then.

*"This organizational formula proved to be superior to all the previous ones. It has remained unchanged today, both in fighter and fighter-bomb aviation".[2]*

In World War II, the Air Force acted due to the circumstances in two distinct campaigns: the first on the Eastern Front, between June 22, 1941 and August 23, 1944, the second on the Western Front, between August 23, 1944 and May 12, 1945.

Aviation engaged in military actions at the beginning of the Eastern campaign included 50 aviation squadrons, of which 15 bombing (8 heavy bombing, with S-79, He-111, Bloch and Los aircraft; 3 light bombing, with IAR aircraft -39), 17 fighter squadrons (with IAR-80, Me-109E, He-112, Hawker Hurricane aircraft), the others being Liaison (6), Transport (1), Reconnaissance (3), Sanitary (1).

**a. The Combat Air Group** as a large combat unit, was the main force for action for the initial phase of operations. It included the entire bombing aviation (3 fleets), most of the fighter aviation, reconnaissance and liaison squadrons, ie 253 aircraft of which 205 were available and were provided by 208 crews. It is worth mentioning the deployment of the aviation units in the Buzău - Tecuci - Focșani area, since the preparation phase of the actions.

**b. The Aviation of the 3<sup>rd</sup> and 4<sup>th</sup> Romanian Armies** included a reconnaissance squadron, 2-3 observation squadrons and a liaison squadron, destined to act both for the benefit of the armies and the army corps. Their missions were coordinated by an Army Air Command.

The enemy air forces in the area of the actions of the Combat Air Group were substantially equal to those of the Romanian aviation, respectively 2 fighter aviation regiments and 2 bombing aviation regiments.

Conceptually, the outbreak of hostilities and the subsequent deployment of aviation actions followed the plans of any air operation in a modern war, valid even today.

The campaign began with an offensive air operation, which was launched according to the Operative Directive on the morning of June 22, 1941 at 04.00, capturing the enemy. The border - the Prut River - was flown over by 124 aircraft (56 bombing, 64 fighter and 4 reconnaissance).

The purpose of Bessarabia's military air actions was to conquer air supremacy, based on which the air force could later carry out missions in support of its own land troops, especially in critical moments, so that later air strikes could be concentrated on enemy troops.

The balance of air operations for the liberation of Bessarabia and Northern Bukovina (June 22 - July 26) includes, among others, 8706 flight hours performed in 5108 aircraft outings (of which 1032 bombing and 2162 fighter aircraft), 242 enemy aircraft destroyed (83 in air battles, 108 destroyed on the ground and 51 shot down by anti-aircraft artillery) and 43 own aircraft lost.

The stage for the conquest of Odessa (August 8 - October 16, 1941) was imposed as a political and military necessity. Within it, aviation actions were lower in intensity but particularly important in the subsequent economy of ground operations. The fighter jet carried out the aerial cover of the ground groups, the bombing hit the enemy aerodromes, the railways, the concentrations of forces and means, the transport and combat vessels. The efficiency of the use of aviation in extreme situations for the other forces was highlighted once again.

Among other things, it intervened to repel the landing of the enemy that was to be made by surprise near Odessa and, at another time, the air force's intervention banned the enemy's counter-offensive in the Dalnic sector. On the Odessa front, the air force initially operated with 24 squadrons totaling 223 aircraft, to which were later added 116 reconnaissance and observation aircraft.

In the campaign of 1941 (June 22 - October 16), the actions of aviation materialized in 6626 combat missions executed in 12108 aircraft outings and 21077 flight hours in which 2354 tons of bombs were dropped, 349 tons of ammunition were consumed, and 257 enemy aircraft were damaged in air battles or destroyed on the ground.

In this campaign, the aviation proved a viable functional structure, able to solve complex combat situations at strategic, operational and tactical level, asserting itself once again as an indispensable force in modern armed combat.

After this stage, a large part of the air force was withdrawn to the country for recovery. The 1942 campaign focused on military operations in the Caucasus, the Stalingrad area and the Elbow of the Don, beginning with the usual - at war - command organizations and redistributions of forces, depending on operational needs.

The main missions performed by the Romanian aviation were:

- covering the German bombing squadron with fighter aircraft during air operations in the Stalingrad area;
- the direct support of the German 6th Army in its offensive on Stalingrad and then in the defense between the Volga and the Don;
- the support of the 3rd Romanian Army in the defense operation on Don and the Elbow of the Don; bombarding communications in the depths of the opposing device; aerial observation and photography.

The Romanian Air Force in the area of military operations Stalingrad and Elbow of the Don included 26 aviation squadrons (6 fighter jets, 2 fighter-bombers, 7 bombers, 2 reconnaissance, 2 transport, one medical). The result of the actions materialized in 2728 aircraft outings (1430 fighter jets, 1298 bombings) with 4327 flight hours in which 1478 tons of bombs were dropped, mainly in the Stalingrad area and 48 air victories were obtained. But also the own losses were big both in personnel (473 people) and in technique (72 airplanes) to which other unavailabilities were added.

The year 1942 meant for the Romanian aviation, as for all the forces of the Romanian army in the areas of operations, a difficult moment due to the development of military actions deep in the enemy territory, at thousands of kilometers away from the national territory, with all the unfavorable consequences that have occurred for the supply system with ammunition, food, etc., to which were added the totally unfavorable atmospheric conditions of the flight in the last part of the year and the difficulties of maintaining the morale of the troops after the launch of the Soviet offensive, on November 19, 1942.

Starting with February 1943, the air force reorganized into the 1st Romanian Air Corps and completed its means until June, the same year, with 106 modern German aircraft (40 Me-109G fighter jets, 15 dive bombers Ju 87 Stuka, 29 Henschel 129 assault aircraft and 2 reconnaissance aircraft). The corps became operational under German command (German 4th Air Fleet) on June 16, 1943, when it began to carry out actions in support of Romanian and German ground operations in particularly complex and difficult conditions.

These were due primarily to the large disproportions in the amount of air available to the size and needs of the front and secondly to the superiority of the opponent, especially in fighter aviation and anti-aircraft artillery, which were extremely numerous and active.

Under these conditions, the human effort of the Romanian Air Corps was extraordinary, reaching 5-7 and even 8 plane/man/day departures, that is almost three times the normal intensity in war conditions.

During a year of war (June 16, 1943 - June 16, 1944), the Air Corps carried out missions in 16,766 aircraft outings, destroyed 339 aircraft on the ground or in the air and dropped 6970.5 tons of bombs on the enemy.

The own losses registered during this period were of 109 destroyed planes plus 391 damaged (repairable) ones out of a total of 500 run physical planes, and as personnel 84 military.

In mid-1944, it found aviation retreating to southern Bessarabia and Moldova.

The analysis of the Romanian aviation campaign on the Eastern Front must also be connected with its actions on the national territory, when the allied aviation carried out massive bombings on Romania: June 12, 1942, August 1, 1943 and April 4 - August 20, 1944.

On June 12<sup>th</sup>, 1942, the "*Halpro*" action took place in which a group of 23 American B-24 Liberator bombers took off from the base in Khartoum (Sudan) to bomb the Ploiești - Prahova Valley oil area. It was the first U.S. Air Force mission on the European continent, but which has been a total failure. Of these, only 13 retreated, the others being shot down by the Romanian-German air defense.

The situation is repeated on August 1, 1943, but in other conditions. At the beginning of the year, the air operation "*Tidal Wave*" is planned simultaneously with the landing in Sicily. The purpose of the air operation was to destroy the most important source of natural oil in the Axis: the Ploiești - Prahova area. 162 B-24 Liberator aircraft were affected, with a range of 12 hours of flight, which took off from the base in Benghazi (Libya) unaccompanied by fighter aircraft.

The attack of the objectives was carried out with formations of 8-12 planes, with bombs of 250-500 kg and incendiaries, from horizontal flight at low altitudes (100 - 150 m). The oil refineries and buildings in the city of Ploiești were partially destroyed, the damages amounting to 4.6 billion lei and 121 deaths. The Americans lost 35 bombers (20 shot down by Romanian and German fighter aircraft, and 15 by anti-aircraft artillery), proving the effectiveness of the area's air defense system.

Between April and August 1944, a series of air raids took place, practically aiming to get Romania out of the war. Of these, the most large were those of April 4 and 5, 1944.

On April 4<sup>th</sup>, 1944, 170 B-24 bombers took off from the air base in Foggia (Italy) bombed Bucharest from a high altitude (6500-7000 m) causing great material damage and over 1500 casualties. The reaction of the fighter aircraft was prompt, shooting down 11 bombers. The next day, about 200 B-24 Liberator and B-17 Flying Fortress bombers, accompanied by fighter jets, bombed the Ploiești area in five successive waves, launching loads of 10-12 explosive bombs of 250 kg. During the raids, 15 aircraft were shot down.

In the following months there were several raids, day and night, of lower intensity, on the oil mains but also in order to maintain a certain degree of uncertainty among the population.

The increased degree of mobility was also due to the fact that large units and units were subordinated directly to the General Headquarters (Air Headquarters) and not to great units of land troops, as in the Soviet army.

It also turned out that in campaign conditions the air forces and means are rapidly depleted physically and morally, constantly requiring large reserves to compensate for unavailability and losses.

The comparative and detailed analysis of the evolutionary process of military aviation would certainly highlight the fact that the period 1940-1944 represents the maximum of the air forces in terms of quantity, quality, organization, conceptual and action throughout their existence. [3]

***The Campaign on the Western Front*** covered the period from August 23, 1944 to May 12, 1945, and went through several stages: actions for the liberation of the national territory, actions on the territory of Hungary and then those on the territory of Czechoslovakia and Austria.

The act of August 23, 1944 left its mark on the development of the military actions of the Romanian army through the unprecedented situation created: in only a few hours, the opponent becomes a friend, and the ally the enemy. At that time, the Air Staff consisted of about 2 air corps and a hunting flotilla assigned to the defense of the territory. The initial actions took place in a great state of confusion and uncertainty, not knowing the conditions of Romanian aviation participation in the war against Germany. Relocations were ordered from Moldova to Muntenia, actions for the conquest of aerodromes that were mostly defended by the Germans.

At the beginning of September, the Romanian Air Corps was set up and deployed in Transylvania, totaling 20 squadrons with 210 aircraft and 233 crews. From an organizational point of view, the Romanian Air Corps was established as a large operational unit with all aviation categories, with German aircrafts (Messerschmitt 109 G, Henschel, Junkers 87 and 88, Heinkel 111) and Romanian aircrafts(IAR 38, 39, 80, 81).

The main mission of the Air Corps, right from its inception, was to support the operations carried out by the Romanian and Soviet ground troops for the liberation of Romania's territory. In the context of the situation, he was entrusted with far more missions than usual to execute units of this level in other armies. As a rule, an air corps was intended to support ground troops in a single army. Or, the Romanian Air Corps had the mission to simultaneously support both Romanian armies (Army 1 and Army 4) in the operative device of the Ukrainian 2nd Front. He was later asked to support the Soviet armies in the direction of the main blow of the Ukrainian 2nd Front or in other directions important from an operational point of view, by covering up destroyed concentrations or disorganizing by heavy bombardment the transport of troops behind the enemy front.

In the first stage of the campaign (September 20 - October 25, 1944) the activity of the Romanian Air Corps is statistically materialized in 990 missions during which 2240 aircraft departures and 3295 flight hours were executed. 340 tons of bombs were dropped on the enemy, about 15 tons of ammunition and 693 tons of fuel were consumed.

The results of the actions materialized in the destruction of 40 enemy aircraft, 50 tanks, 90 trucks, 29 trains totaling over 1000 wagons with troops, materials and ammunition, 8 stations with crowds of troops, artillery positions, columns of troops on communications, etc.[1]

In the stage on the territory of Hungary (October 25 - December 22, 1944) the Air Corps operated, after the reorganization, with 15 squadrons, with 174 aircraft and 197 crews. The actions of the aviation were weighted by observation and liaison missions, but bombing missions were also carried out to block the enemy on the retreat routes or on the train sets.

The opponent's reaction was weak, and the weather conditions had become unfavorable, which required that almost all missions be carried out exclusively at low altitudes. 612 missions were executed with 805 aircraft departures in 1335 flight hours, consuming over 70 tons of bombs. As a result, some German-occupied airfields, a large number of tanks, vehicles and military trains loaded with troops, materials, ammunition and fuel, artillery pieces and columns on the roads were destroyed. The Romanian Air Corps lost 13 planes and 61 personnel. [1]

In the last stage of the Western Campaign, carried out on the territory of Czechoslovakia, the Romanian Air Corps initially acted with 14 squadrons, with 176 aircraft, and after completions with 20 squadrons, with 252 aircraft and 297 crews.

The characteristic of this stage is that, in general, the missions of the Romanian Air Corps, within almost 9 months, aimed at supporting the combat troops on the offensive, hitting targets from close range of enemy devices, especially with assault and dive bombing aircraft, disorganization of rail transport by hitting communications nodes,

railway stations, depots and marshalling yards, hitting retreating or overflowing columns, bridges, crossing points, remote research missions to discover aerodromes, deployment districts, reserves, research close in favor of ground troops, correcting artillery fire, launching manifestos in resistance districts.

Throughout the operations, the Air Force supported only the Soviet armies, the Romanian 1st and 4th Armies directly benefiting only from observation aviation. During the fighting on the territory of Czechoslovakia, a total of 2578 missions were carried out in 4981 aircraft departures with 6304 flight hours. During them, 946 tons of bombs were dropped on the enemy. The losses caused to him were particularly significant: 29 tanks, 20 artillery batteries of different types, 448 vehicles and 238 carts with materials and troops, 6 bridges, 40 military trains, 27 factories with war production, columns, aerodromes, points of support, etc.[1]

Even in the given conditions: regime change, change of alliances, operative subordination to foreign commands, aviation demonstrated in the Western campaign its combat capability and professionalism in planning, executing and leading actions.

#### **4. CONCLUSIONS**

The major conclusion drawn from participating in the campaigns of the two world wars is that aviation played an important role in the conduct of military actions, with decisive combat effects. These campaigns revealed the role and importance of aviation in modern warfare.

It was pointed out that an aviation that depends on input from abroad - from neutral or allied states - has no lasting chances. It must be based mainly on domestic production of at least 85%, and the stock of raw materials, the adaptation of the industry, the creation of specialists and pilots must be done in peacetime. The methods and procedures of action in combat used by all categories of aviation (research, heavy bombardment, dive bombing, assault and hunting) highlighted the degree of professionalism and the ability of aeronautical personnel to adapt to the complex conditions of the theater of operations.

The campaigns carried out by the Romanian Air Force during the Second World War can be the subject of a whole cycle of military aviation art, many conclusions and current lessons can be drawn, regarding the concepts and structure of air operations, ways of organization and cooperation, procedures and methods of action in battle. We do not always have to appeal or refer to the actions of others in various local conflicts or wars. We can have our own examples.

But the victories are also bitter. As a result, by the Peace Treaty of Paris of February 10, 1947, the allied and associated powers practically abolished the Romanian aviation, annulling its level of force of the army. The total number of aircraft is limited to 150, of which only 100 fight, reactive aviation is banned, bombing aviation is abolished, the aeronautical industry, etc. is liquidated.

February 15<sup>th</sup>, 1949, the Military Aviation Command was established, moving from fleets to divisions, to aviation regiments and aerodrome service bases (later, technical). There have been several structuring and restructuring processes that mark the beginning of the recovery of military aviation and the assertion of its operational capacity.

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