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Mechanization of Russia (U.S.S.R.)

Wide World Photo.

## Mechanization

BY LIEUT. COLONEL P. R. DAVISON, *Cavalry*  
and  
MAJOR E. M. BENITEZ, *Coast Artillery Corps*

*This article does not necessarily express the ideas, policies, teachings or beliefs of The Command and General Staff School. It should not be construed that the authors are attempting to introduce new and strange ideas to our service. The study is written to present mechanization, in a general character, as it is found today in five great nations. An hypothetical situation is used as a vehicle upon which to load a suggested mechanized force. Should this study inspire a great many differences of opinion, it has then created thought on the subject, and in so doing, its mission is accomplished.*

The Republic of ATLANTIS\* is considered the wealthiest nation in the world. It is a peace-loving country, desires no aggrandizement of territory and, up to the present time, she has enjoyed a security from invasion that has been greatly assisted by her geographical position. She has maintained a traditional policy of aloofness, freedom from alliances and political entanglements with other nations, although she has materially assisted other Powers with men and materiel to safeguard their integrity and to preserve their democratic ideals. Her lofty aims and her invaluable assistance have not always been duly appreciated. She maintains a strong Navy and a small, but highly efficient Active Army and a well-trained Territorial Guard. It would take several months for ATLANTIS to put a large army in the field, and it is contrary to her national policy and to the will of the people to maintain a large standing army to safeguard her interests at home and abroad. The tactical doctrine of her army is based upon offensive action.

The unsteady world conditions and the realization that it is no longer possible to conceive military operations which do not require the use of armored vehicles, have awakened ATLANTIS to the fact that she needs some kind of a mecha-

nized force. At present, she has practically none; she is, therefore, starting from scratch.

Accordingly, the Chief Executive of ATLANTIS has sent the following directive to his Secretary of National Defense:

THE EXECUTIVE MANSION OF ATLANTIS,  
10 August, 1938

THE SECRETARY OF NATIONAL DEFENSE,

My Dear Mr. Secretary:

Modern means of transportation, communications, size of navies, and, especially, the capacity, potentialities, speed and range of airplanes today and those planned for future use, have taken from Atlantis the security that she has enjoyed from her birth due to her geographical position.

Our National Defense is splendid in all its branches, arms, doctrines and tactics, except that it completely lacks mechanization. We have partial motorization, but no mechanization.

It is requested that the appropriate staff section make, without delay, a study of the mechanization of England, France, Germany, Italy and Russia, considering for each country at least the following subjects:

\*A fictitious country, without mechanization policies, doctrines or tactics thereof.



1. Mission of the armed forces.
2. The terrain, or probable theatre of operations.
3. The organization of mechanized forces.
4. The armament of combat vehicles.
5. The doctrine of mechanization.
6. Probable tactical employment.

Submit to me as soon as possible recommendations for the organization of a mechanized unit or force which possesses the best features of the five nations above mentioned, adapting it to our own needs, and such additional information as you may deem fit.

Sincerely,

A,  
*Chief Executive, Atlantis.*

The Grand Staff, bearing in mind that, as President Coolidge once said, "there is no better way of finding out what should be done than by determining what has been done," referred to the pages of history for a study of the origin and development of mechanized weapons and their practical applications on the battlefield.



*Acme Newspictures.*

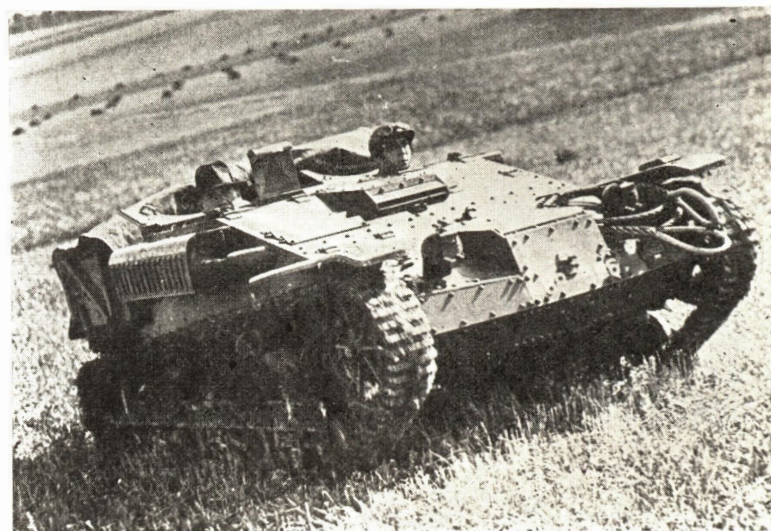
Flame throwing Italian tank in action.

Since the beginning of warfare, it has been recognized necessary to have some kind of shock troops to pierce the enemy front. Hannibal's use of elephants as a spearhead to crush the center of the Roman Legions is, perhaps, the first example of this type of force. In that case, the experiment was not entirely successful, because the elephants became disorganized and could not be controlled on the battlefield. That idea, however, may have been the guiding principle for the use of similar methods of warfare during the World War; however, just as in the case of Hannibal, the result was a failure in those cases where mechanical defects existed or where improper tactical use was made of these weapons.

In the World War, by the year 1916, mobility of action had been lost and, as a result of the machine gun and the barbed wire entanglement, stagnation had taken place all along the Western Front. The Allies then resorted to the tank, which was the only type of mechanization known at that time. This weapon was devised by the British as an

antidote to the machine gun that was playing such havoc with the lives of the infantry, that it was sheer murder to send men against strongly defended positions.

The British used tanks for the first time during the Battle of the Somme, in the summer and fall of 1916, again in Flanders and at Cambrai. Their value became evident

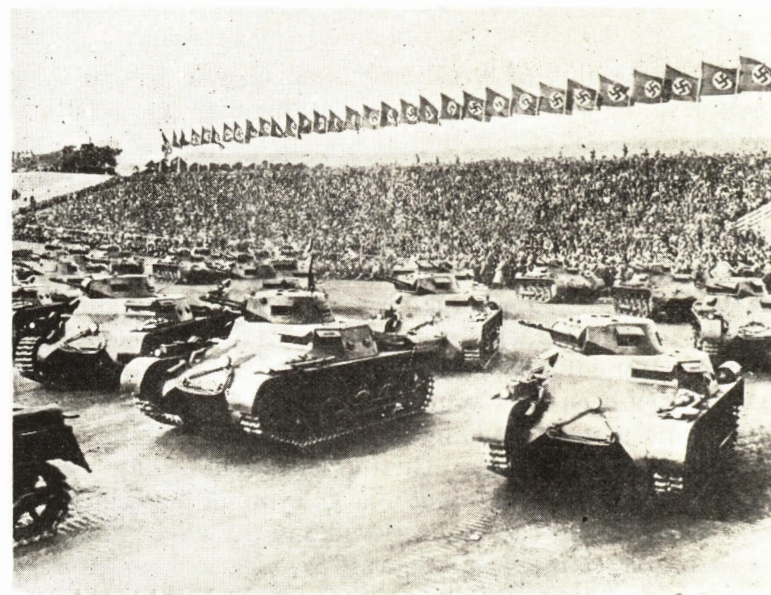


*Wide World Photo.*

Edouard Daladier, France's Minister for National Defense, riding in one of the light combat machines of the French mechanized troops.

from the outset, in spite of the fact that they were slow moving, mechanically imperfect machines and were given poor tactical employment by inexperienced hands.

The French used tanks in the Soissons offensive, made for the purpose of reducing the Marne Salient, at Amiens and in the September-October 1918 offensives (Champagne and Guise).



*Wide World Photo.*

Germany's war machines on exhibition in Nuremberg.

The Germans first employed tanks in the great spring offensive near St. Quentin, 21 March 1918, and used them thereafter in all major operations up to the end of the war, with varying degree of success.



It may be said that the following principles governing the tactical employment of tanks can be deducted from the World War:

1. That terrain is a controlling and vital factor in tank operations.
2. That surprise, when possible, is extremely valuable in a tank attack.
3. That tanks, when used in mass, properly screened and supported by artillery, have the opportunity to make a deep penetration into a defensive zone.
4. That tanks are extremely vulnerable to artillery fire, when not adequately screened.
5. That the absence of an artillery preparation or other efficient means of dealing with the enemy antitank weapons, leaves intact hostile weapons that may be able to intervene effectively against a tank attack and cause heavy losses.
6. That artillery counterbattery support is of great assistance, if not a necessity, to advancing tanks throughout the attack.

"Tanks are the principal attack elements of a mechanized force. The tactics of the force as a whole, shall be predicated upon supporting and assisting the attack of the tank elements and upon quickly consolidating, securing and exploiting the success gained by the tank attack. Other arms are added as auxiliaries to furnish the element of holding (which tanks lack), security and maintenance of command, fire support, facility of movement and supply."

The term "mechanized unit," as we understand it today, includes all units equipped with armored combat vehicles, whether they be scout cars, combat cars or tanks. All major powers are mechanizing or motorizing as far as their financial and industrial resources permit, and for this reason, it is of particular importance to cast a glance at what those nations are accomplishing. The information herein given has been obtained from foreign press reports and, due to the many changes and experimentation that is continually taking place, it may contain slight errors in organization.

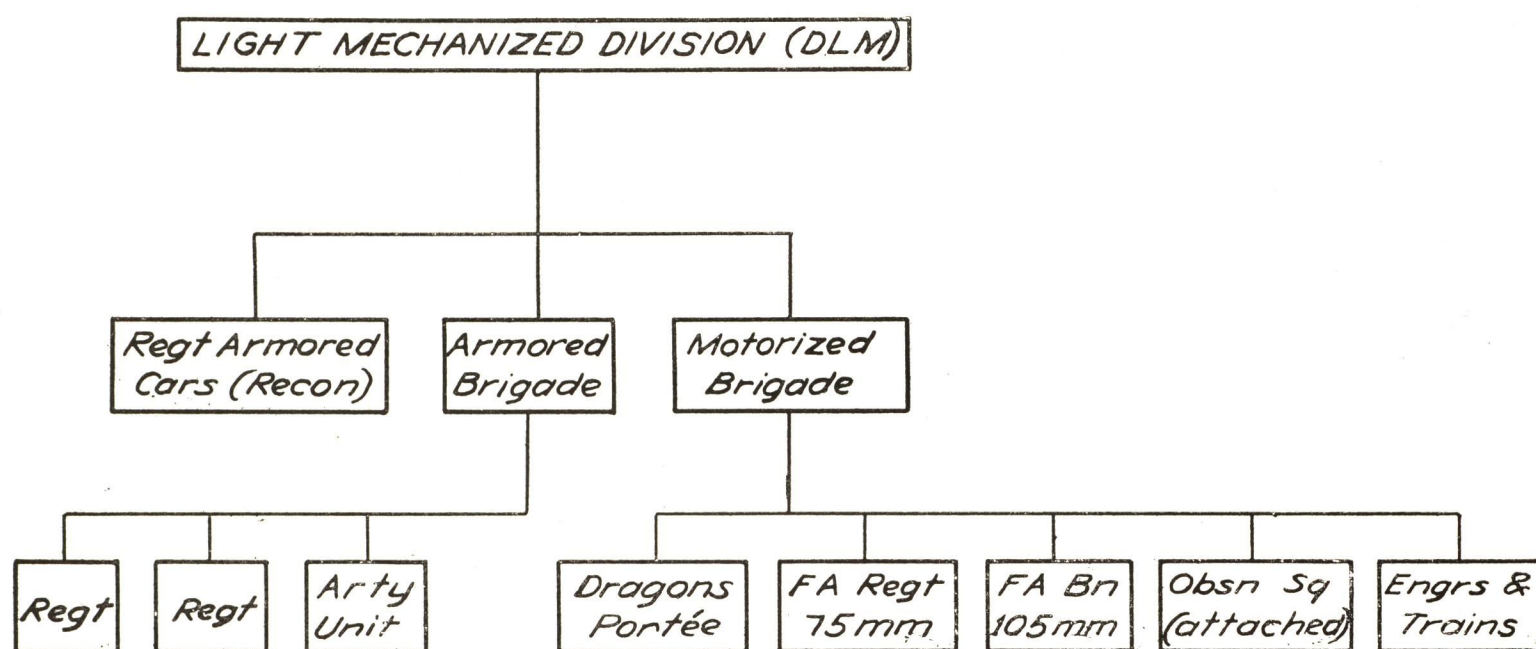


FIGURE 1.—French Light Mechanized Division.

7. That the tank attack (leading tanks) should include a rapid advance to predetermined objectives, the most distant of which is the mass of the hostile artillery, paralyzing the enemy's communications and command system.

We thus see that the World War developed a new factor in the art of war that has opened new horizons whose possibilities the world is beginning to realize, and that the ideas of the offensives of 1918 in the Western Front and those contemplated for 1919, were the origin of the operations and conceptions of the mechanized forces of the present day.

Since the World War, the major powers have been experimenting with mechanized units and testing theories concerning mechanization. It may be inferred, therefore, that a need is anticipated for a mechanized force, the basic requirements of which are great mobility and striking power.

When the United States' mechanized force came into being in 1928, the War Department directive said, among other things:

## FRANCE

The French military doctrine is based upon a national policy that does not seek territorial expansion, but desires to maintain intact what she now possesses. The French visualize only one enemy—Germany—her big, heavily armed neighbor, defeated in the World War, but now determined to get back the territory and power of which she was stripped by France, England and the other Allies; therefore, all their plans and organization are designed to stop effectively any German attack. The French defense is based upon the Maginot Line,\* an immensely strong series of underground forts, running from the Belgian frontier to a point along the Swiss border. If they are attacked around either flank of this line, they expect to block the advance with a mobile defense until they are reinforced by allies.

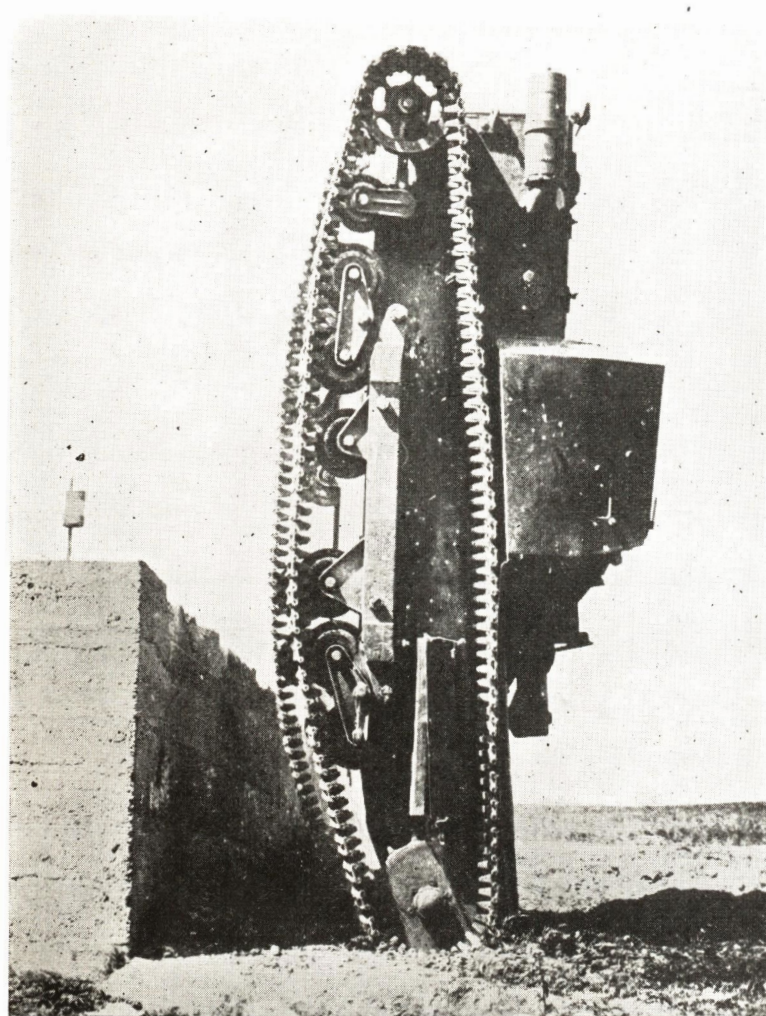
\*See *C&GSS Quarterly*, June 1938, page 46.



The terrain of operations of the French Army is on its own soil, or in adjacent territory on its northern frontier, where there is an excellent road net.

Mechanization is still in a state of flux. She has one complete mechanized division, one in the process of formation, a third tentatively planned, and a fourth suggested. Her light mechanized division (Division légère mécanique D.M.L.) is organized into two brigades, as shown in Figure 1. The dragons portée are equivalent to motorized infantry; they are mounted in light trucks and are provided with transportation for all personnel and weapons.

Mechanized cavalry units have motorcycles that accompany most of their cars as a holding echelon, and for communication purposes. The present tendency in these units is to increase mobility, even at the expense of power. Due to the excellent road net in France, this system is quite satisfactory.



World Wide Photo.

A British Combat machine of recent development.

The French mechanized force is a powerful weapon provided for the high command. It is designed to effect distant and rapid reconnaissances involving combat, to occupy and hold strategic positions pending arrival of slower troops, to carry out cavalry missions with increased speed and radius of action and to meet the attack of large hostile mechanized forces.

The French believe that mechanized forces will play an important part in preliminary operations and in exploitation

after a successful attack. However, they believe that in order to break through a strongly organized defensive position the attacker must still rely on the superiority of his artillery to open the way for his infantry.

Mechanized units are costly to create and to maintain, and for this reason mechanization has been solely confined to the cavalry. The French Army trends are towards motorization rather than to mechanization. They believe that armies must make greater use of fast moving vehicles; they see the army of the future as the large army used during the World War, not mechanized, but motorized. They think of mechanization as applying to a special mechanized force. There seems to be little sympathy with the thought of small armies in future wars. This is quite natural as the colonial resources in manpower are too great an asset to be lightly put aside. In France, the proponents of mechanization have not been as active as those in other countries; but, on the other hand, plans for motorization are very comprehensive. The best French thought conceives that the army must be motorized as soon as possible and that fast moving machines are needed to increase the mobility of modern forces.

The French doctrine still is: "artillery takes the ground, the infantry occupies, consolidates and holds it."

#### GREAT BRITAIN

The British have traditionally relied on sea power, now reinforced by air power, for protection of the homeland and the colonial empire. She has come to regard the Mediterranean sea as somewhat her own property, because she has Gibraltar at the western entrance and controls the Suez Canal in the east, placing her in a favorable position to defend her road to India. If fighting occurs it will probably take place on some other nation's soil. They visualize the use of the army on the continent or throughout the Empire. Great Britain has no one particularly enemy; traditionally, her policy is in opposition to the conscriptive military service of Continental Europe.

British enthusiasm for fighting machines began with the men who first saw tanks in action, and this enthusiasm increased after the smashing attack of nearly four hundred tanks at Cambrai. By the end of the World War, the British had the best tanks in existence and they had acquired definite ideas of how to use them. Her responsible civil and military leaders are definitely committed to the policy of moto-mechanization and at present all infantry battalions at home have been completely moto-mechanized.

The British Army is organized and trained, primarily, as an expeditionary force. In India, the most likely scene of conflict is on the northwest frontier, in a mountainous region entirely unsuited to machine warfare; consequently, the Indian Army does not require the full measure of mechanization that is desired for home units. Clashes between Moslems and Jews in Palestine may attain such proportions that Great Britain may be compelled to send an expeditionary force to preserve order there. British foreign policy indicates Europe as a very possible theater of war; there the terrain is generally suitable for mechanized warfare; moreover, if a British Army ever fights on European soil it will probably be alongside of the French Army. Under such conditions, the expeditionary force might well be top heavy with mechanization. There is a strong sentiment in Britain that



the expeditionary force must be ready when the need arises and for this reason the immediate organization of mechanized forces is considered urgent.

On 7 March 1938, Mr. Chamberlin in a speech in the House of Commons, designated the objectives of Great Britain's policies, as follows:

- “1. The protection of Great Britain.
2. The preservation of the trade routes upon which this country depends for its food and raw materials.
3. The defense of British territories overseas from attack, whether by sea, land or air.
4. Cooperation in the defense of the territories of any allies we might have in case of war.”

After the Prime Minister had indicated the military objectives of Great Britain's policy, the Secretary of State for War, Mr. Hore-Belisha, made it clear that a British expeditionary force in the future would not consist of a few stereotyped divisions. “From now on,” he said, “there are to

Highlanders, are being converted into machine-gun battalions, and are being equipped with armored machine-gun carriers. In addition the 3d Carabiniers and the 17/21st Lancers are being converted to light tank units. This is part of the scheme to replace the five British horsed regiments plus the eight light tank companies in India by four British cavalry light tank regiments.

In regard to tactical doctrine, the British remember the lessons of the World War. They foresee the future possibility of again being called upon for a military effort in Europe. They visualize a rapid moving, hard striking force, capable of executing wide encircling operation or quick, deep penetrations into rear areas. They would avoid, above all, the defensive action and stabilized warfare of the past.

Ten of the 22 cavalry regiments will be mechanized or motorized. The two-brigade cavalry divisions of the expeditionary force will be converted into a mobile division, consisting of units shown in Figure 2.

The important factor regarding mechanization in the British Army that should always be kept in mind, is that

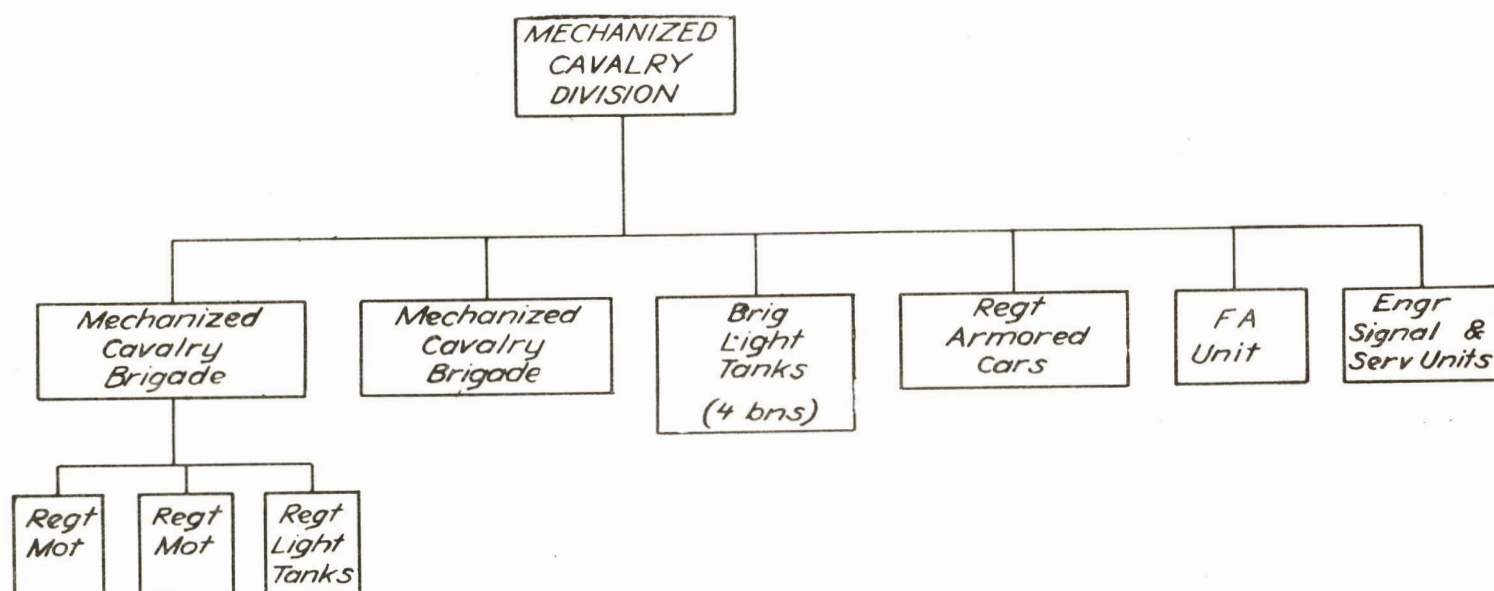


FIGURE 2.—British Mechanized Cavalry Division.

be two types of divisions and variations within the types. One type will be a motorized division, based on the light machine gun, much the same as existing divisions, which are already more than 50 per cent motorized. The other type will be a mechanized armored division, based on the tank. As regards the heavy machine-gun battalions, a proportion of these will be retained as corps troops; the remainder will be converted into light machine-gun battalions and will form the nucleus of the motorized divisions. The strength of the modern army,” Mr. Hore-Belisha continued, “is based not on the individual, but rather on fire units, which combine firepower and mobility.”

The British Regular Army in India is being mechanized. By way of falling into line with home practice, four British battalions: the 1st Royal Fusiliers, the 1st Devons, the 1st Royal Scots Fusiliers and the 2d Argyll and Sutherland

according to its mission, the Army will probably be fighting in conjunction with one or more continental allies—and in that case it will furnish, as a matter of fact, the mechanized force for the allies with whom it may be associated.

#### GERMANY

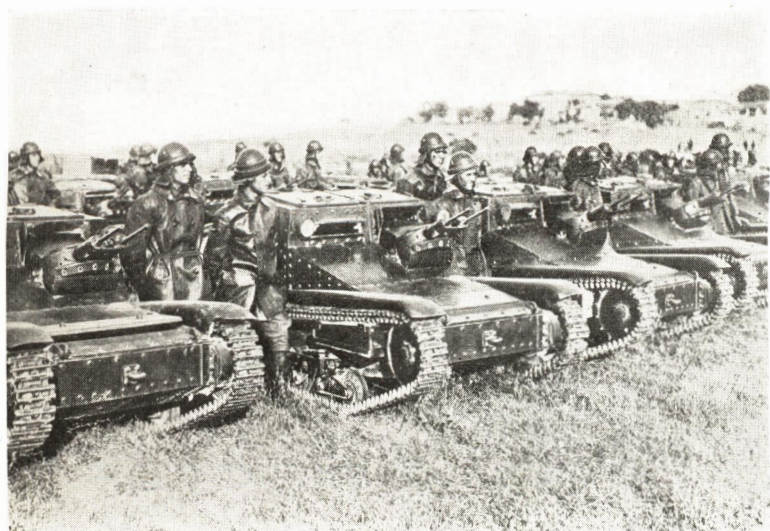
The mission of the German Army is aggressive, at present seeking aggrandizement of national territory in the direction of Czechoslovakia or Poland. By her recent annexation of Austria, an area approximately equal to that of the state of Maine has been added to her territorial limits and her population has increased from 66 millions to about 74 millions. The Austrian Army of 70,000 Regulars and the 190,000 reserves are being rapidly transformed into Pan-German forces. Her next most pressing military problem is the elimination of Czechoslovakia. Traditionally the enemy of



France, she has built a splendid road net in the southwest, especially suitable for the use of mechanized forces. It is reliably reported that Hitler is rapidly fortifying the Rhine frontier to meet a French attack.

The terrain of operations of the German Army will be, initially at least, on some one of the neighboring nations' soil.

Germany, formerly tied by the provisions of the Treaty of Versailles, which she repudiated in 1935, has made herself free to acquire the most modern equipment. Her equipment is new and embodies all modern improvements, outclassing those nations which have been tagging along with their old materiel, some of which dates back to the World War. She anticipates battle with an adversary strong in armored vehicles. The infantry division is equipped with 54 antitank guns, which will be increased to 72, according to reports. The French division has 48.



*Acme Newspictures.*

Italian Baby Tanks manned by Young Fascists.

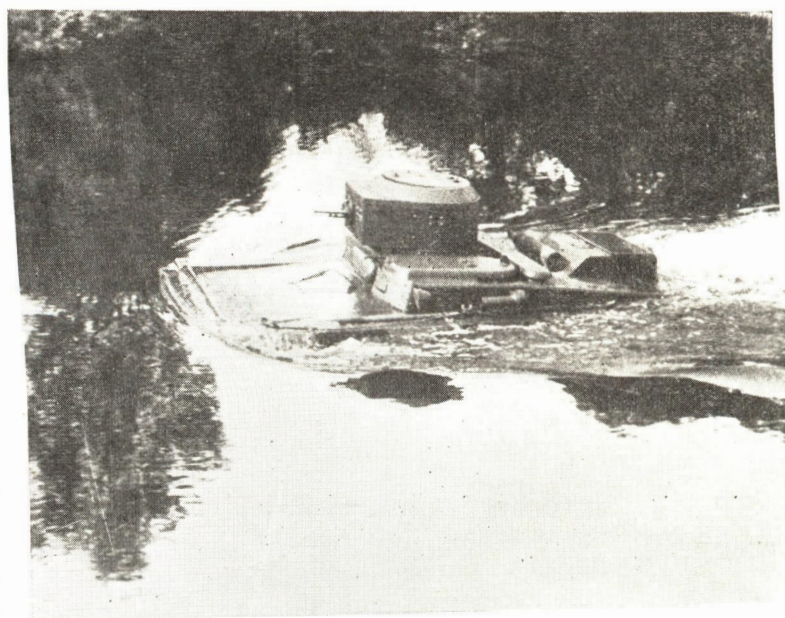
Germany, according to reports, has three armored divisions, which are being expanded into six. The division organization is believed to be as shown in the Chart. (Figure 3.)

The German tactical doctrine contemplates a strong, swift stroke, sustained by manpower, to maintain the conflict in hostile territory. These mechanized divisions are designed to provide a powerful, fast striking weapon for surprise use in the initial stages of the campaign. This mechanized force will strike hard enough and far enough into hostile territory to frustrate the enemy's mobilization and disrupt the enemy's initial defensive dispositions in such a way that the supporting German forces will be able to secure an early victory. An example of the speed with which Germany expects to move her mechanized force was given by the lightning-like rapidity with which that powerful force was concentrated in Vienna last March, reaching Brenner Pass before the surprised Italians could realize the seizure of Austria. Germany attaches great importance to the early hours of the war and therefore, her strategy is based upon a war of quick decision, when her war machines, on land and air, will vigorously strike during the first days or weeks of the war and inflict defeat upon the enemy.

## ITALY

The mission of the Italian army is for the defense of the homeland and the preservation and enlargement of her colonial empire, upon which Italy is dependent for her raw materials. She looks forward to power and expansion through future domination of the Mediterranean Sea, replacing Great Britain in these waters. An invasion from the north, through Brenner Pass, has always been the uppermost concern of the Italians, fully remembering that since the days of Hannibal, all invasions of her soil have come through this strategic Pass. Italy wanted an independent Austria as a buffer state, because Germany was too big and strong a neighbor for comfort. On 25 July 1934, Italy mobilized troops on the Austrian border to protect Austria's independence when Austrian Nazis killed Chancellor Dolphus and Germany was then supposed to be planning the seizure of that country, as she did four years later. Many Italians believe that Mussolini was poorly treated by Hitler when the latter took Austria. Italians who remember Caporetto have no love for Germany and, despite Hitler's assurances of peace, friendship and the promise that Brenner shall forever remain the inviolate frontier between the two countries, there will always be a question in the Italian minds as to the sincerity of these promises, particularly considering that there are nearly three-quarters of a million Germans in Northern Italy.

Italy is very vulnerable to a strong sea power, but at present she is strong in the Mediterranean, due to the numerous submarine and air bases that she has prepared and which threaten the life-lines of both Great Britain and France. She visualizes France as losing prestige among the Latin nations and strongly desires to assume that leadership.



*Wide World Photo.*

A Russian Amphibian of a new type.

During the last few years, Italy has been experimenting with major units of three distinct types: the fast (Celere) division, the motorized division and the mechanized brigade.

The purpose of the fast division is to make long and rapid movements and to arrive on time; then, at the designated place, to deploy fire power sufficient to accomplish



its mission. To this end, the division is composed of two parts: cavalry, motorcyclists and fast cars, for speed; portée units and artillery, for fire power. It is a long range reconnaissance and combat force, extremely mobile and little exposed to ground or air attacks. The cavalry and the cyclists can negotiate difficult terrain and engage and break combat with ease. The fast division is particularly suitable for operations in the Northern frontier.

The purpose of the motorized division is to develop, when the occasion demands it, a very high power fire. It is, in substance, an infantry division transported in motors. It is capable of long, rapid movements; but at the moment of action it leaves its motors and fights like an ordinary division, reinforced by a strong mechanized echelon. Naturally, it is tied to the roads, and once committed to action, it becomes an ordinary foot unit and loses its value as a mechanized force.

These two units opposed each other in the Italian maneuvers last August\* on the plains of Venice. Their identity of doctrine and equality of forces, led to a stalemate. The motorized division cut off the fast division from its base, and the fast division fell upon the rear of the motorized division, isolating this unit from the main body of its forces.

The purpose of this unit is to break the enemy's line, to open a gap through which other troops may penetrate and break down the enemy's further resistance. The mechanized brigade is, therefore, the keen edge of the penetrating wedge, but it can reach its objective only when properly provided with supporting artillery, as otherwise, the enemy's guns can prevent the brigade from reaching the defensive line, or at least, inflicting heavy losses. As the gap is opened, units from the rear—fast, motorized, or self-propelled—should be pushed into it to cause the enemy's general collapse, leading to what Napoleon called the "denouement." Many Italian military leaders believe that the mechanized brigade should be termed the mechanized division and that it should have one battalion of 100-mm and another battalion of 105-mm, and be further reinforced by army artillery, as the situation may require.

The national policy of Italy calls for a war of short duration, necessary because of shortage of essential raw materials. Accordingly, her strategy is based upon a quick victory, which is essential because her industries cannot be maintained nor her people fed if the gateways to the Mediterranean from the east and west are closed to her. In accordance with Mussolini's declarations, Italy evidently

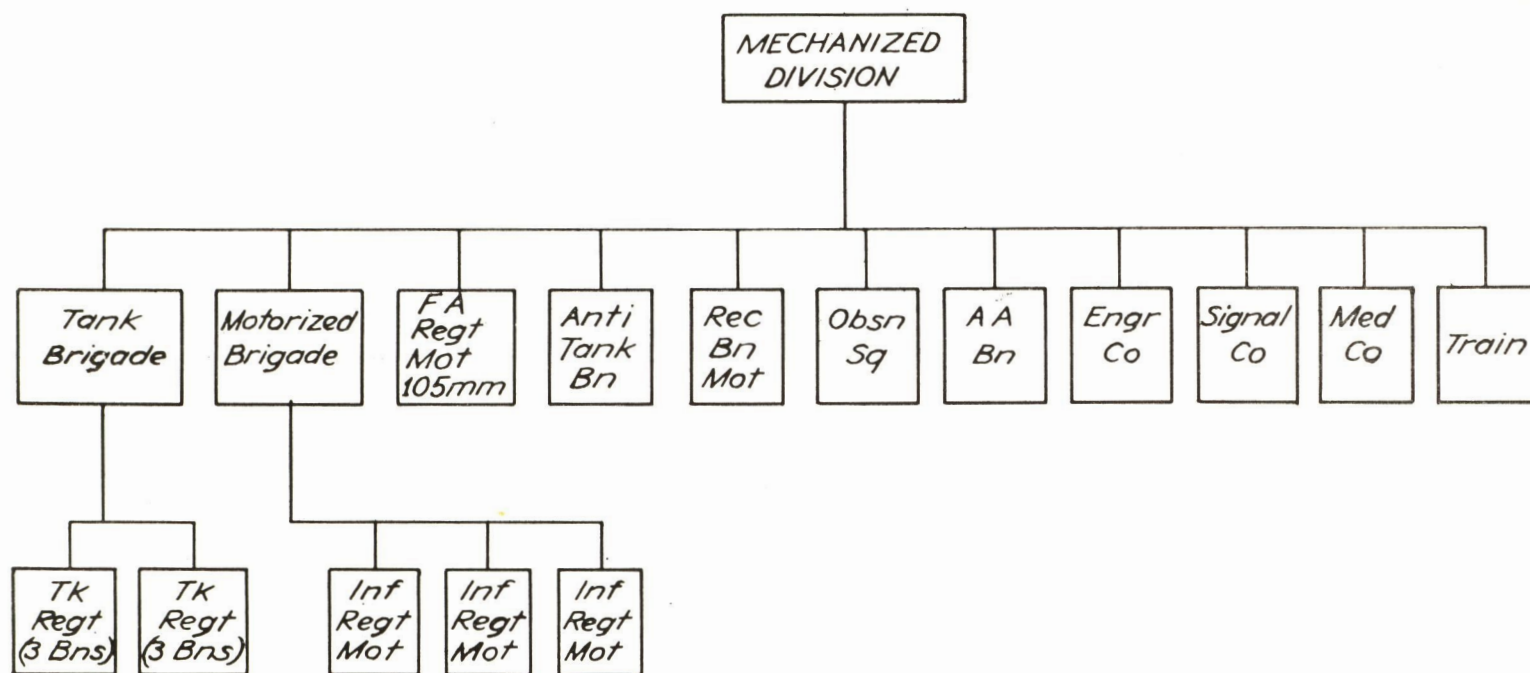


FIGURE 3.—German Armored Division.

General Pariani, in his final report of these maneuvers, remarks that "these two new types of units were used to oppose each other; but this should be considered as exceptional, for these units are intended for use in collaboration and probably assembled in larger units. This would make it possible to make a more logical distribution of duties for elements possessing great speed and maneuvering power, giving a combination which would have great combat strength."

The mechanized brigade (*brigata corazzata*), as tested in the maneuvers held in Sicily last August,† is shown in Figure 4.

\*See *C&GSS Quarterly*, March 1938, page 75.

†See *C&GSS Quarterly*, March 1938, page 71.

will use her air force more or less in accordance with Douhet's theory, striking terror and destruction into the hostile territory. She has practiced this type of warfare during the Ethiopian War and more recently in Spain, and apparently believes in the soundness of this doctrine.

## RUSSIA

The mission of the Russian Army contemplates a war against Japan in the Far East, or against Germany, or Germany and Italy combined, in Europe, or possibly a war in the two theaters at the same time. The organization plans of the Red Army call for a program of defense on two fronts, thousands of miles apart.



According to reports, the Russian Army has five divisions and nine independent brigades, fully motorized, and a total of from 3,000 to 4,000 tanks, mostly Christie, manufactured in Russia. The mechanized force, according to the foreign press, comprises two motorized divisions, six armored car regiments and eighteen armored car groups. A number of units are equipped with amphibian armored cars, with a maximum speed of 40 miles per hour on land and seven miles per hour on water. All the cavalry divisions have been provided with a mechanized group of three squadrons of light tanks and armored cars. Due to the cloak of secrecy maintained, it is practically impossible to give the organization of the mechanized force with absolute accuracy, but there seems to be little doubt that Russia is thinking along mechanized lines and that probably within a few years she may achieve considerable development in mechanization.

The combat principles of the Red Army are based on the employment of mechanical equipment. "Modern assault weapons, especially tanks, artillery, aviation and mechanized forces employed on a large scale, make possible the organization of a simultaneous attack of the enemy on his entire battle front, so that he may be isolated, completely surrounded and destroyed." (Par. 112, FSR 1936.) And again, "the maneuver and attack of mechanized units should be supported by aviation." (Par. 7, FSR 1936.)

the mechanization of the Army of Atlantis. The Grand Staff study is attached as an appendix.

In arriving at the recommendations the factors you expressed were kept constantly in mind, and in addition, the following were considered:

1. The tactical doctrines of the five major powers studied are frequently influenced by distinctive factors of geography and of national policies.
2. A military conflict of the future is inconceivable without the participation of air and armored forces. Unquestionably, the evolution towards the machine is being accentuated daily.
3. The incontrovertibly established importance of aviation requires a speedy, aggressive and strong power on the ground, to supplement and retain the results gained from aerial reconnaissance and combat.
4. The defensive power of the older arms is not great enough to repulse the attack of strong hostile armored forces, nor is the penetrating power, mobility and speed of the older arms sufficient to drive the attack so rapidly and deeply into the hostile front, as to deprive the defender of sufficient time to take countermeasures.
5. Improvisations of mobile units have proven to be of little value, as it was borne out by the organization of the

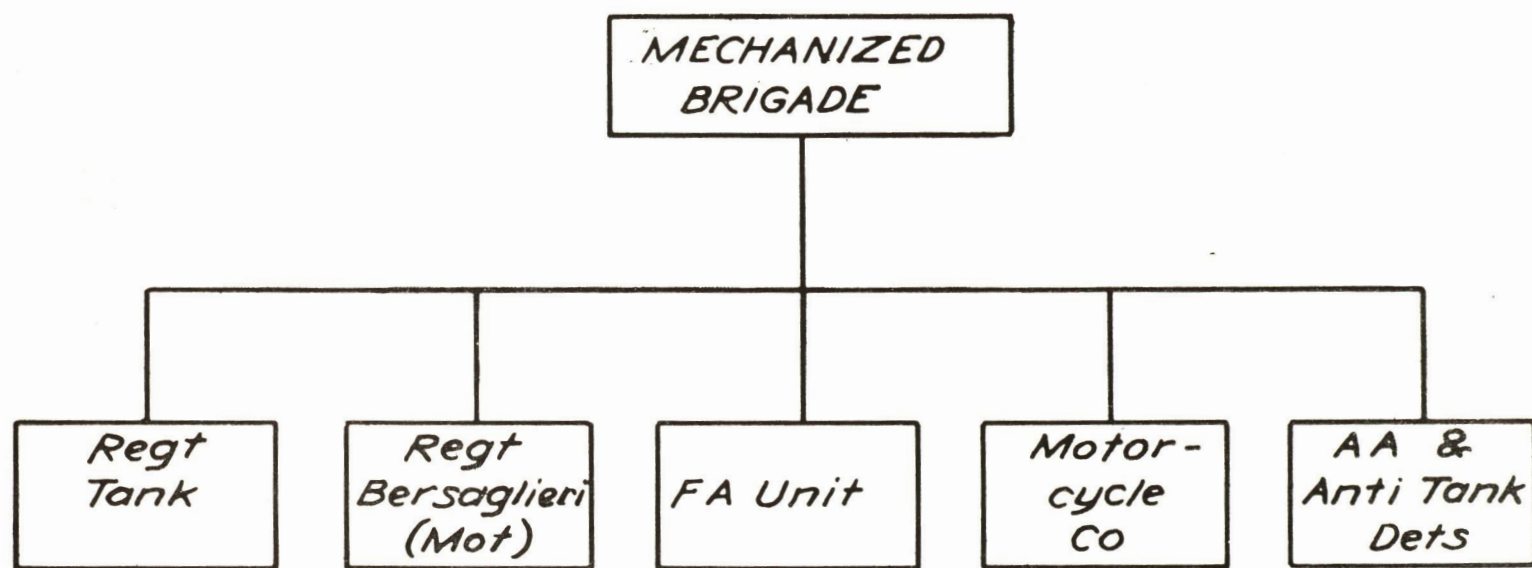


FIGURE 4.—Italian Mechanized Brigade.

#### CONCLUSIONS

As a result of the above study, the Chief of Staff submitted his report to the Secretary of National Defense. Based on the conclusions, the Secretary communicated to the Chief Executive as follows:

DEPARTMENT OF NATIONAL DEFENSE  
REPUBLIC OF ATLANTIS  
10 September 1938

THE CHIEF EXECUTIVE  
REPUBLIC OF ATLANTIS

My dear Chief:

In compliance with your directive of 10 August 1938, I submit herewith the recommendations of my department for

German cavalry in 1914. A swift armored division should be organized that will form the nucleus of the mechanized force of Atlantis in case of war; a force receiving appropriations directly for its improvement and development, not as a part of any branch, but a force to which all branches of the service must contribute, whose tactics and training will break away entirely from the methods that were thought adequate for the cavalry or for the infantry and think matters out from an entirely fresh basis. This should in no way prevent the cavalry and the infantry from acquiring such mechanization to the extent necessary to enable these arms to better carry out their prescribed tactical functions. The fact that this mechanized unit fights in support of the infantry, or that it carries out a role once filled by cavalry, is an incidental matter.



6. This mechanized force, which we shall call the Swift Armored Division, should be used for strategic missions and for exploitation of a success, and its principal mechanized elements are the scout car and the combat car. These elements will be organized into three echelons: reconnaissance, support and assault.

7. The basic principles underlying the employment of the Swift Armored Division are: movement, surprise and the objective. It will be employed on defensive missions only in case of necessity and its relief from such missions should be effected at the earliest opportunity.

8. The Swift Armored Division is especially valuable in pursuit and delaying action. Its great mobility and fire power enables it to operate on a broad front, to beat the enemy to defiles and other critical localities, to carry out destruction on the enemy's routes of advance or retreat, to strike the enemy in flank or rear, or to deliver repeated attacks against his flanks.

9. The Swift Armored Division is especially adapted to use in an envelopment or turning movement and in the exploitation of a breakthrough. The most important factor to be considered in this type of operations is the terrain, and it will be the mission of the reconnaissance echelon to reconnoiter and seize favorable terrain for the action of mechanized vehicles. From this favorable terrain, the support echelon assists the attack of the assault echelon, and occupies the objectives secured by the latter. Thus the support echelon becomes the springboard from which the assault echelon makes its successive bounds to gain the ultimate objective.

10. Since there are three echelons, the Swift Armored Division should have three types of mechanized vehicles: fast scout and/or light armored cars, medium combat vehicles and combat vehicles of a heavier type, which will take care of the three different phases of battle: reconnaissance, development for combat and attack. The reconnaissance element of the mobile division will cover the division and penetrate or outflank the enemy's screen. This echelon will be reinforced by the support echelon, to develop the enemy's defensive dispositions and gain a suitable terrain from which to attack; finally, the assault echelon, comprising the mass of the division's mechanized force, will be launched by surprise and in several waves against the enemy's front or flank in order to gain a decisive success.

11. ATLANTIS has a large seacoast to defend, and a highly mobile force like the Swift Armored Division, will be extremely valuable as a mechanized general reserve, capable of reaching any threatened locality in a comparatively short time. This strong reserve, centrally located in rear of strategic sections of our coast, can meet the enemy at any point where a hostile landing is attempted.

12. It is believed that the proposed Swift Armored Division (Figure 5) is suitable to carry out all these missions and is particularly adapted to the terrain of operations where it will be employed. It is a well balanced, homogeneous unit, all elements of which have the same rate of march.

13. The three mechanized regiments constitute the nucleus of the fighting force, which supported by motorized infantry, artillery and aviation, possesses speed, mobility and shock action; it is, in short, a modern weapon of pronounced striking power. The supporting motorized infantry will render valuable assistance in clearing defiles of hostile troops,

obstacles and road blocks, and can render important service as a holding force. Since the infantry regiment and the field artillery regiment consist of three battalions each, one battalion may be attached to each mechanized regiment in case that circumstances may make it desirable to do so.

The division reconnaissance unit, at the disposal of the division commander, gives a tool of reconnaissance, making unnecessary the detachment of similar units from the other elements of the division.

The observation squadron furnishes observation of the terrain over which the division will advance and fight, will furnish battle reconnaissance and lay, if necessary, smoke screens to blind or deceive the enemy. The attack aviation, which will always be available for attachment, can render great assistance by attacking those objectives which cannot



Wide World Photo.

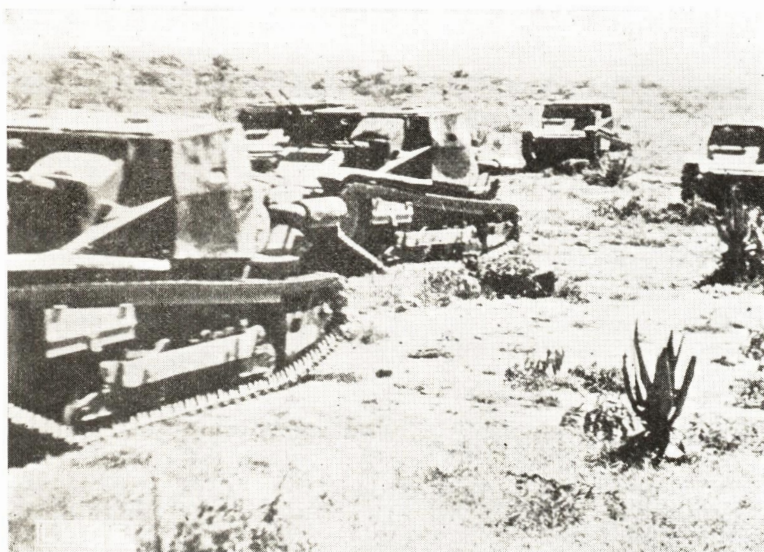
German combat cars on the march in Austria.

be fired upon by the artillery. Its objectives will be, therefore, hostile antitank weapons, hostile artillery and reserves, beyond range of our own artillery or which may be unknown to the artillery.

Attack aviation may be the only means available to the enemy against a surprise attack of the mobile division; however, bombing must be used because the effect of aerial machine-gun fire against fast moving armored vehicles can be discarded. It is important, therefore, that the Swift Armored Division be provided with antiaircraft defense.



The Swift Armored Division must be characterized by high mobility, strategical and tactical simplicity and flexibility. Mobility requires that only essential elements be included. It requires a well balanced, self-reliant organization, which has within itself the means to overcome obstacles that will be encountered during the advance and in the battlefield. This requires an engineer unit, since it is believed that demolitions and obstacles of all kinds will be used to an extent never before seen in war.



Wide World Photo.

Italian Mechanization enroute to ADOWA over desert wastes.

Radio communication is essential to the command and, therefore, a signal unit is necessary.

Simplicity may be secured by limitations of vehicles to the fewest possible types. Combat cars should be equipped with one type of gun, thus facilitating procurement, training and ammunition supply.

Flexibility requires an organization that will permit the attachments of other units, such as motorized infantry, aircraft and cavalry, for special operations, or as additional support and striking power.

This office believes that mechanized forces are not only particularly suitable and necessary to the army of ATLANTIS, but that their creation will be facilitated for the following reasons:

1. The domestic facilities for the manufacture of armored vehicles in Atlantis is unsurpassed by any nation in the world. Industrial, material, scientific and financial resources are more than ample to produce and maintain the necessary equipment.

2. It has been said that oil will dominate the next world war and that it is even more important than munitions and men to modern fighting units. Atlantis has an overwhelming advantage on her side. Napoleon's armies moved on their stomachs, but the modern motorized and mechanized armies move on gasoline. The German highly motorized and mechanized army had considerable difficulties in its march on Vienna and it is said that a large portion of the mechanized and motorized units were left stranded on the roads and never saw Austrian soil. The French General Staff, writes Arno Dosch-Fleuret, has figured out that the oil needs—motor and lubricating oil—of modern armies, navies and air fleets is so great that, in the event of war, the demand of Europe for war purposes alone would be nearly three times Europe's entire peacetime needs. Germany is supplying herself today from coal, mostly low grade coal and lignite, a million tons of fuel a year. But in the event of war, that is only a fraction of the oil that Germany will need for her armies. Shortage of oil will paralyze those motorized and mechanized forces. The last barrel of oil of a beleaguered army will be as dramatic as the last cartridge.

3. The demand for greater speed and mobility is in full accord with Atlantis' plan of national defense, a plan based on a small, highly efficient force. The citizens of Atlantis are thoroughly accustomed to the use of mechanical devices and have a larger number of mechanics than any other nation in the world. Members of Parliament appreciate the value of fighting machines, recognize the needs of a well equipped, modern, mechanized force, so that, as an entirely independent entity, it will be in a favorable position when the times come to grant the necessary funds.

4. Fighting machines suit the national characteristics of the citizens of Atlantis. They appeal to their desire for energetic and swift decision.

Respectfully submitted,

B,  
Secretary National Defense.

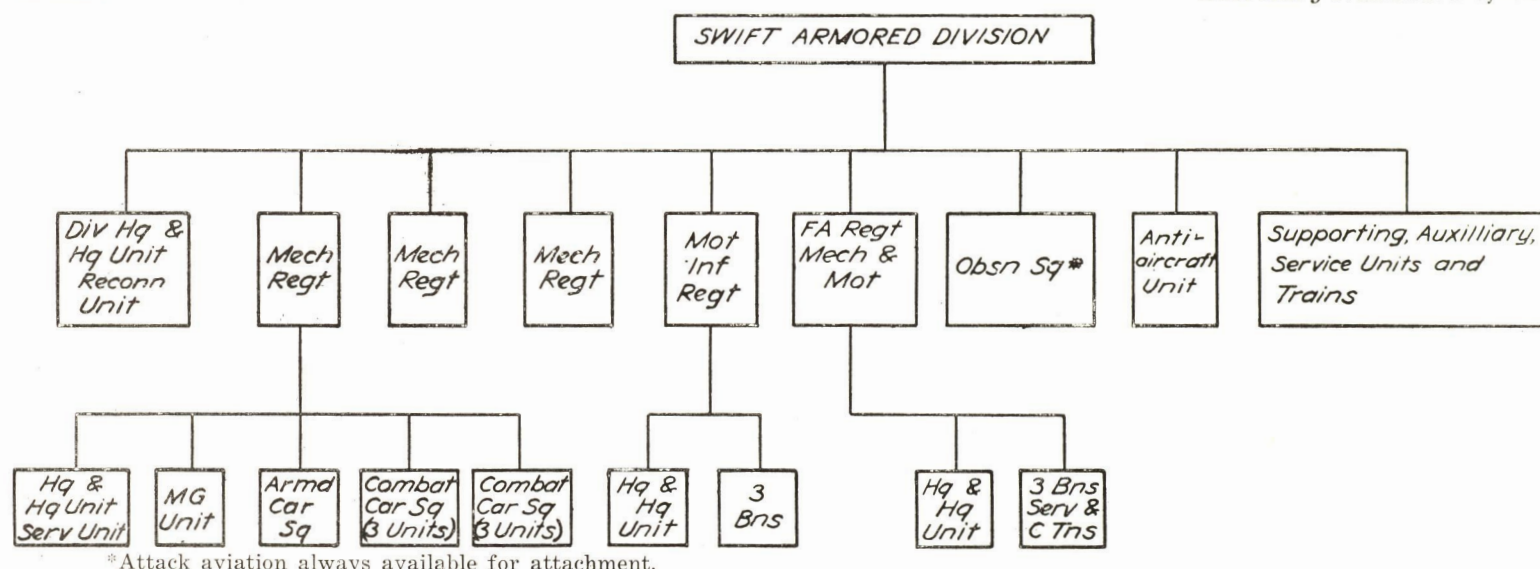


FIGURE 5.—Swift Armored Division of Atlantis.

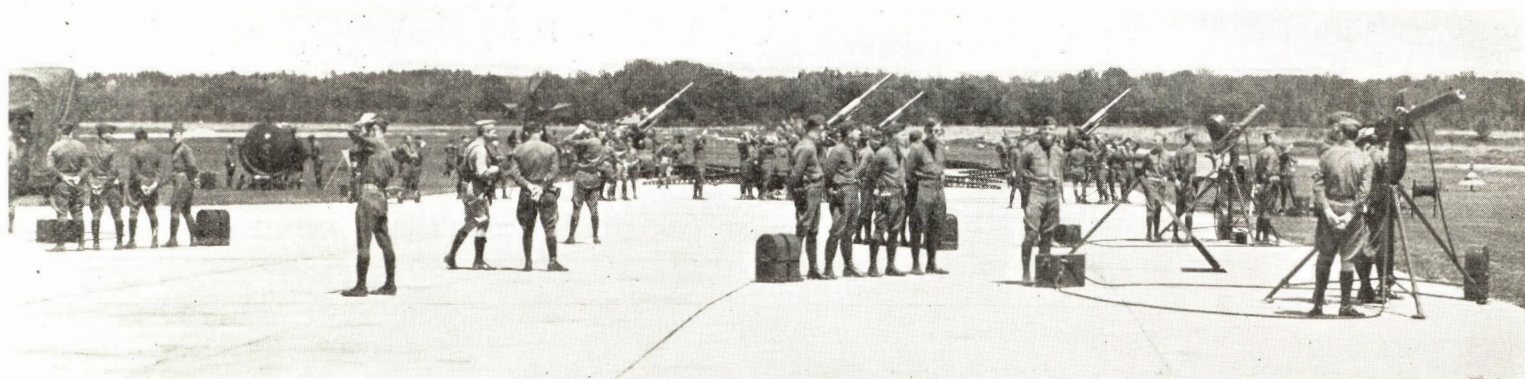


The authors have endeavored to present in this study a balanced mechanized force of strong fire power, great mobility and heavy shock action, independent in organization, a force pertaining to no one branch. On such a controversial subject, it can hardly be expected that there will be unanimity of agreement. This general study is presented as the

basis of discussion of a problem the satisfactory solution of which should be under constant discussion. The mission of this publication will have been fulfilled if this article serves to inspire vigorous thought on one of the most widely discussed subjects that is occupying the minds of the most brilliant military leaders in the world today.

"In some countries of the world, man is held cheap. In the United States, on the other hand, we have the utmost respect for human life . . . Consequently, in our national defense program of today we have placed great emphasis upon equipment, supply and transportation . . . We have developed an automotive program which looks toward an army on wheels which will operate more speedily, fight more efficiently and suffer less severely than our military forces of yesterday."

—Assistant Secretary of War Louis Johnson.



United States Army Antiaircraft troops.

U. S. Air Corps Photo.