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USSR Report

MILITARY AFFAIRS

No. 1776

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Moscow PRAVDA UKRAINY in Russian 23 Feb 83 p 2

[Article by Mar SU S. Sokolov, USSR first deputy minister of defense: "Standing Guard Over the Peace and Security of Nations"]

[Text] Our people and their glorious soldiers are celebrating the 65th anniversary of the Soviet Army and Navy in an atmosphere of political inspiration and labor enthusiasm, devoting all of their energy to fulfilling the decisions of the 26th CPSU Congress and the November (1982) CPSU Central Committee Plenum. Today the Soviet Union stands before the whole world as the mighty vanguard of mankind's social progress and a dependable bulkwark of international security.

As we know, Lenin's Peace Decree was the first decree of the Soviet government. Our party and state decisively voiced opposition to war and aggression and support of protection of the peace and security of nations. And if we had strengthened, and continued to strengthen our defenses, and if we had developed and continue to develop and improve our armed forces today, we have been compelled to do so by imperialists and their aggressive actions. Immediately following the victory of the Great October Socialist Revolution, as V. I. Lenin had predicted, international imperialism and internal counterrevolution challenged the Country of the Soviets as a united front. To defend the accomplishments of October, the victorious proletariat found its revolutionary army a vital necessity.

Headed by V. I. Lenin, the Communist Party did a world-historic service by managing to create a regular strictly disciplined mass army with a unified centralized administration in the most difficult conditions of civil war and foreign intervention. This was an army of a fundamentally new type. It defended the noble and just ideals of socialism and the ideals of peace, relying upon the unanimous and comprehensive support of the laboring masses. From the first days of its existence this army displayed steadfastness, courage and an unbending will for victory. Fighting admirably, it repelled troops of the German interventionists at Pskov and Narva. To commemorate mobilization of revolutionary forces in defense of the socialist fatherland and the acts of heroism of the first regiments of the Soviet Armed Forces, we now celebrate 23 February of each year as Soviet Army and Navy Day.

In the course of the savage engagements of the civil war and the foreign military intervention, which lasted more than 3 years, the Red Army and Navy repelled numerous campaigns by imperialist aggressors and White Guard hordes and defended the accomplishments of Great October.

In the subsequent period, pursuing the objectives of peaceful socialist construction, the party and all Soviet people did not weaken their attention to strengthening the country's defense capabilities for a single day.

Actively and persistently fighting for peace, at the same time the Communist Party methodically implemented a well-conceived system of measures to prepare the country and its armed forces to repel imperialist aggression. The troops were reequipped on the basis of all-out development of the socialist economy and defense industry. The size of the army and navy increased, and their organizational structure improved.

On 22 June 1941 fascist Germany, which had enslaved almost all of West Europe by that time, made its treacherous surprise attack upon the USSR. Imposed upon the Soviet Union by German fascism, the war was the greatest armed challenge of socialism by the strike forces of world imperialism. During it, the fate of the world's first socialist state and the future of world civilization, progress and democracy was decided. The Soviet people and their valorous armed forces blocked the way of the aggressor and played a decisive role in the defeat of Hitler's Germany and militant Japan. The most important landmarks on the way to victory were the battles of Moscow, Stalingrad and the Kursk salient. The victory of the battle of Kursk and attainment of the Dniepr by the Soviet troops represented the culmination of the turning point in the course of the Great Patriotic War and of World War II as a whole. The grandiose Berlin operation and other engagements led to the complete and final defeat of Hitler's war machine. On 8 May 1945 fascist Germany surrendered unconditionally. And no matter how much malice bourgeois falsifiers of history bear, they cannot diminish the indisputable fact that it was our country and the Soviet people that carried the main burden of war on their shoulders.

Our victory in the war became a historical landmark in the fate of mankind. It was a powerful accelerator of the world revolutionary process which was started by Great October, and it had the most profound influence on the entire subsequent course of world development.

It has now been almost 4 decades that mankind has been spared the hardships of a new world war. During all of these years, peace was insured on the planet owing to the efforts of the USSR and its allies, owing the constantly growing economy of the countries of the socialist fraternity and the might of their defensive alliance.

The world revolutionary process cannot be reversed. However, the most aggressive imperialist circles are continuing to make their rash plans with this idea in mind.

The aggressive policy of the USA and its allies is assuming an increasingly more dangerous nature. Contrary to the existing objective reality and contrary

to common sense, Washington continues to do everything to surpass the Soviet Union in military respects and thus pave the way to world conquest. The military preparations of imperialism, the intensity of which has reached an unprecedented level, serve this goal. In three and a half decades the USA spent $2 trillion dollars for military purposes. But today, just within the next 5 years--1983-1987--it intends to spend over $1.6 trillion for these purposes.

The strategy of "direct confrontation" declared by Washington is aimed at achieving military supperiority over the Soviet Union and establishing the military supremacy of the USA. It includes a broad range of aggressive premises--from making a mass first nuclear strike to conducting "limited" and "protracted" nuclear wars. But the essence of these premises is the same--aggression directed against the USSR and its allies with the purpose of "annihilating socialism as a sociopolitical system." As was emphasized in the political declaration of the Warsaw Pact countries, the situation is thus becoming generally more complex, international tension is growing, and the threat of war, and primarily nuclear, is intensifying.

The attempts being made by these latest pretenders to world supremacy are absolutely unpromising. But it would be a great mistake to ignore the fact that imperialist countries possess a considerable economic and military potential and powerful armed forces today. The threat of war is a harsh reality of our days. It demands doubled and tripled alertness and an untiring, daily effort to strengthen the country's defenses and raise the combat readiness of our armed forces.

Fulfilling Lenin's commandments, the Communist Party is showing constant concern for strengthening the Soviet State's defensive might and improving and developing our army and navy. The November (1982) Plenum of the CPSU Central Committee once again confirmed the general party line on defense issues. In his speech at the plenum CPSU Central Committee General Secretary Comrade Yu. V. Andropov emphasized: "The Politburo has always believed and now believes that providing the army and navy with everything they need is mandatory, especially in the present international situation."

The Soviet Armed Forces will continue to receive the necessary quantities of the most sophisticated weapons, and the equipment and training they receive will be maintained at the level of modern requirements. Today the army and navy possess powerful strategic intercontinental and medium-range strategic missile complexes, modern types of tanks, effective air defense resources, sophisticated airplanes with high combat and flying characteristics, atomic submarines, aircraft carriers and missile and antisubmarine ships.

The USSR Armed Forces are capable of performing any mission. But at the same time, as was once again emphasized at the November (1982) CPSU Central Committee Plenum, our might is subordinated exclusively to defense. Our military doctrine is also purely defensive. A confirmation of this can be found in the USSR's pledge not to make a first strike in a nuclear war.

Evaluating the state of the Soviet Armed Forces, the 25th CPSU Congress noted with satisfaction that their combat potential is a strong alloy of high

equipment availability, military proficiency and indestructible morale. In their daily military labor, our soldiers are persistently improving their field, air and naval skills, and they are fighting to strengthen the combat readiness of the units and ships and to achieve stably high indicators in combat and political training.

High combat readiness is the prime concern and main task of all soldiers.

Combat training plays a most important role in maintaining combat readiness and in the personnel's mastery of the art of modern warfare. Organizing it, the commanders, staffs and political organs remain fully aware of the fact that under modern conditions, the requirements imposed on the soldiers are incomparably greater than before. War, pointed out CPSU Central Committee Politburo member, USSR minister of defense, Marshal of the Soviet Union D. F. Ustinov, requires confident actions on the battlefield in the face of the enemy's use of mass destruction weapons and other powerful fire weapons, the capability for enduring enormous spiritual and physical stresses, high psychological stability, those methods of action which would make it possible to inflict decisive losses upon the enemy with minimum forces, and much else. All of the multifaceted work being done in the troops and fleets is subordinated to developing these habits and to shaping high moral, political and combat qualities in the personnel.

The party-political work plays a most important role in all of the missions facing the troops. Its center of gravity must be located right where the problems of combat training and the combat readiness of the personnel are being resolved--in the company, the battery and the squadron. And party organizations must necessarily set the tone of this work.

The socialist competition that has evolved in the army and navy under the motto "Raise alertness, dependably insure the motherland's safety!", is an important stimulus in the life and combat training of the troops.

The Soviet Armed Forces are an inseparable part of our heroic people. Their power, and the source of their numerous victories over the enemies of our motherland, can be found in the leadership provided by the Communist Party. The armed forces grew, matured, fought and won beneath the party's tested Lenin banner. Inspired by the concern of the party and people, Soviet soldiers are honorably performing their patriotic and international duty, and standing an alert watch over peace and construction of Communism.

Past and Present Role of Army-Navy Discussed

Moscow SOVETSKIY PATRIOT in Russian 23 Feb 83 p 1

[Article by Col Gen M. Sobelev, deputy chief, Main Political Administration of the Soviet Army and Navy: "The Dependable Guard of Socialism"]

[Text] Our people and our soldiers are celebrating the 65th anniversary of the Soviet Army and Navy in an atmosphere of enormous political inspiration and labor enthusiasm. The Soviet people are enthusiastically implementing the

decisions of the 26th CPSU Congress and the November (1982) Plenum of the CPSU Central Committee.

The personnel of the USSR Armed Forces avidly support the wise policy of the Communist Party, which is fully in keeping with the interests of the people, permeated with a concern for the people of labor and directed at achieving effective use of the enormous economic potential of the Country of the Soviets.

A socialist competition proceeding this training year under the motto "Raise alertness, dependably insure the motherland's safety!", has blossomed with new power in the army and navy. As field, air and naval skills continually improve, the ranks of the outstanding soldiers of combat and political training and the masters of military affairs are growing. The combat readiness of the units and ships is rising constantly. Privates and seamen, sergeants and petty officers, shore-based and seagoing warrant officers, officers, generals and admirals deeply understand the great responsibility laid upon them by the party and people--always being fully ready to dependably defend the beloved motherland and the accomplishments of socialism.

The glorious history of our armed forces began in the February days of 1918, when thousands of workers and peasants entered the ranks of the Red Army in response to an appeal from the Communist Party and the Soviet government with the purpose of defending the popular government and the accomplishments of Great October.

The Red Army came into being in a complex situation--in the fire of battle against White Guards and foreign interventionists, and in the conditions of economic devastation. Surmounting all difficulties, the Communist Party and the leader of the revolution, V. I. Lenin, created the first army in history which would serve the people and defend the ideals of socialism and peace.

The Red Army relied upon the support of the laboring people. It is from them that it absorbed its unbending will for victory. High revolutionary morale and a boundless faith in the justice of its cause made our army invincible. It covered its battle pennants with unfading glory, having totally destroyed the superior enemy forces of the young Soviet Republic.

The Great Patriotic War--the hardest of all wars ever endured by our motherland--occupies a special place in the history of the USSR and its armed forces.

The fascist invaders intended to defeat the Soviet Armed Forces within 3 or 4 months, put an end to this socialist country and thus clear the road to world domination. But their delirious plans were not fated to come true. In response to the Communist Party all of our people rose up to fight the enemy, and the country turned into a single military camp.

During the Great Patriotic War the Soviet Armed Forces displayed unexcelled bravery and steadfastness. Among their brilliant victories in the fight against the fascist German invaders, the victory of the battle of Stalingrad occupies one of the worthy places. Its 40th anniversary was recently commemorated in triumph

by all progressive mankind. The Berlin operation, which ended in the unconditional surrender of fascist Germany, was the crowning glory of Soviet art of war and of the power of the USSR Armed Forces. Following it, in September 1945, militant Japan surrendered as well.

Communist Party leadership was the main source of victory in the Great Patriotic War. From the first day of the war and until the last, it was truly a warring party, the inspiration and organizer of the struggle of the Soviet people against the fascist invaders.

Following World War II the positions of imperialism became significantly weaker. But its nature remained as before--aggressive. As the experience of recent years has shown, adventurism and the preparedness to stake the vital interests of mankind on its self-interested goals are manifesting themselves more and more in the policy of the imperialist states, and primarily the USA. The ruling circles of the United States have openly assumed a course toward attaining military superiority over the USSR, and they have initiated an unprecedented arms race. They are attempting to cover up their malicious plans by lies and slander against the countries of socialism, and they are doing everything they can to promote the myth of a "Soviet military threat."

Our people wholly and completely support the Peace Program adopted by the 26th CPSU Congress for the 1980s, and the peace initiatives subsequently promoted by the Soviet State. At the same time they know quite well that one cannot simply ask imperialists to be peaceful. To maintain the peace, and to defend accomplishments of socialism, there must be power.

Our armed forces are a mighty resource restraining the aggressive aspirations of imperialism. They are in constant combat readiness guaranteeing an immediate repulse to any aggressor.

"The aggressive intrigues of imperialism," noted CPSU Central Committee General Secretary Comrade Yu. V. Andropov at the November (1982) CPSU Central Committee Plenum, "compel us and our fraternal socialist states to concern ourselves, and concern ourselves seriously, with maintaining defense capabilities at the required level." In this case the party bases itself on Lenin's teaching on the direct dependence of the material-technical base of the armed forces on the level of development of the country's productive forces. In order to keep from falling behind the greatest imperialist armies, and mainly the U.S. Army in technical respects, the Communist Party is displaying constant concern over our army and navy, making sure that they develop on par with scientific-technical progress.

Owing to the fatherly concern of the party and the selfless labor of our people, the Soviet Army and Navy are outfitted with all of the sophisticated resources of armed conflict. This has led to a significant increase in the firepower, striking force and maneuverability of the troops.

Resolving fundamental issues associated with equipping the army and navy, the Communist Party bases itself on the idea that man has been and continues to be

the main force in war. New forms of arms and automation of troop and weapon control do not diminish the role of the soldier or the significance of his professional, moral, political, psychological and physical qualities.

It is with a sense of high responsibility that Soviet soldiers are fulfilling the tasks posed to them by the 26th CPSU Congress, and concentrating their efforts on raising the combat readiness of the armed forces, remembering that such readiness is based on the high combat skills of the personnel and the ability to fight a modern war, to achieve victory over a strong enemy. Commanders, political workers, party and Komsomol organizations and all armed forces personnel are laboring untiringly on this main task.

Recognizing their patriotic and international duty, soldiers are persistently learning to competently control missile complexes and electronic systems, pilot supersonic airplanes, navigate atomic submarines, use various modern technical resources and alertly protect the borders of the motherland.

The personnel of our armed forces are performing their historical missions of protecting socialism in a single combat formation with the armies of the fraternal countries of the Warsaw Pact. All of the pact's armies, as exercise "Shield-82" showed in fall of last year, are characterized by high combat proficiency. The combined armed forces of the fraternal countries are capable of dependable collective defense of socialism against imperialist aggression.

Military affairs do not march in place. High troop combat readiness and the combat proficiency of officers and all personnel, emphasizes USSR minister of defense, Marshal of the Soviet Union D. F. Ustinov, are achieved through persistent military labor, and they depend in many ways on the efforts of each soldier, on the level of field, air and naval skills of the troops and naval forces. Therefore it is very important for each young person preparing to serve in our armed forces to develop a sense of high responsibility for fulfillment of this honorable constitutional obligation. Service in the army and navy involves difficult labor, and it requires good technical training and high moral and physical maturity. When he comes to the unit or the ship, the young person stands beneath battle pennants that have been glorified by victories over the numerous enemies of the Country of Soviets, and there is no greater honor for this individual than to serve the motherland just as selflessly as his senior comrades, fathers and grandfathers had served.

Remarkable young people are coming into the army and navy. The All-Union Voluntary Society for Assistance to the USSR Army, Air Force and Navy is actively participating in the training and military-patriotic indoctrination of the young, under the guidance of party and soviet organs and in close contact with trade unions and the Komsomol. The DOSAAF is a dependable assistant and reserve of the Soviet Armed Forces. Its ranks are constantly growing. Today, one out of every three conscripts undergoes technical and military training in the training organizations of the defense society.

The Ninth All-Union DOSAAF Congress, which was held last week, spelled out the concrete directions for the activities of organizations of the defense society associated with fulfilling the main task--actively promoting

reinforcement of the country's defense capabilities and preparing the laborers for defense of the socialist fatherland.

Expressing their gratefulness to party and soviet organs, the Komsomol and DOSAAF for preparing young people for military service, the commanders, political workers and party and Komsomol organizations of the army and navy are strengthening their ties with the collectives of industrial enterprises, sovkhozes and kolkhozes, institutions, schools and cultural, educational and creative organizations. This is a clear expression of the indestructible unity of the army and people.

Together with the armies of fraternal socialist countries, the USSR Armed Forces are honorably fulfilling their great historic mission in defending the accomplishments of socialism, restraining imperialist aggressors and foiling their plans, so dangerous to all of mankind. Closely united about the Communist Party, its central committee and the Central Committee Politburo, and wholly devoted to the ideals of communism, the soldiers of the army and navy are doing everything they can to justify the high trust of the party and people.

Soviet Army-Navy Day in RSFSR

Moscow SOVETSKAYA KUL'TURA in Russian 22 Feb 83 p 1

[Article Lt Gen B. Utkin, deputy chief, Main Political Administration of the Soviet Army and Navy: "The Shield of the Fatherland"]

[Text] 23 February 1983 is a great national holiday--the 65th anniversary of the Soviet Army and Navy. Created by the Communist Party and V. I. Lenin to defend the revolutionary accomplishments of the laborers, the army and navy have traveled a heroic path of combat and covered their pennants with unfading glory. In the savage engagements of the civil war and foreign intervention, which lasted more than 3 years, the Red Army and Navy repelled numerous combined campaigns by imperialist aggressors and White Guard hordes, and they defended the young Soviet State.

Under the guidance of the Communist Party the valorous armed forces inflicted and annihilatory defeat upon Hitler's Germany and its satellites, they defended the liberty and independence of the motherland, they completed a great mission of liberation, and they honorably fulfilled their international duty.

The acts of heroism of soldiers and commanders of the subunits, units and formations fighting on the fronts of the civil war and the Great Patriotic War will remain in the memory of the people forever. The Order of the Red Banner was awarded to 15,000 heroes of the civil war. More than 7 million persons received orders and medals and more than 11,600 were awarded the Hero of the Soviet Union title for courage and valor displayed in the harsh years of the Great Patriotic War. Wherever the Soviet soldier-liberator has passed, monuments to the valor and glory of the heroes of the civil war and the Great Patriotic War now stand.

Devoting a day of gratefulness and deep respect to veterans and to all who forged the arms of victory, the Soviet people, peoples of the socialist

countries and all progressive mankind triumphantly celebrated the 40th anniversary of the great victories of the Soviet troops at Moscow and Stalingrad. This year the public is preparing the mark the 40th anniversary of the victory of the battle of Kursk.

Young soldiers are following the heroic traditions of the senior generations, of those who fought in behalf of the life and happiness of the motherland, and who fought and conquered fascism. It is now the sons and grandsons of the heroes of the Great Patriotic War that now stand in the ranks of the motherland's defenders, emphasized the 26th CPSU Congress. They have not undergone the harsh trials that had fallen to the lot of their fathers and grandfathers. But they are faithful to the heroic traditions of our army and our people. And whenever the interests of the country's security and protection of the peace require, whenever help must be rendered to the sacrifices of aggression, the Soviet soldier stands before the world as a courageous patriot and internationalist, prepared to surmount all difficulties.

As with Soviet society as a whole, our army represents a monolithic unity in sociopolitical and ideological respects. Representatives of all classes and social groups serve in its ranks. The Soviet Army is a living embodiment of socialist internationalism and the inviolable friendship of peoples. It is a school of indoctrination of the feelings of brotherhood, solidarity and mutual respect among all nations and nationalities of the Soviet Union. Every military collective, from the subunit, unit, and ship to the armed forces, is a friendly military family.

The Communist Party's leadership of the armed forces and the growing role and influence of party organizations in the army and navy are the principal foundations of Soviet military development. As was noted at the Sixth All-Army Conference of Primary Party Organization Secretaries, the guiding role of the party is growing immeasurably. The CPSU develops the military policy and military doctrine, it organizes their implementation, it concerns itself with the development of military science and the art of war, and it devotes constant attention to personnel indoctrination. The party and its Leninist central committee devote special attention to keeping the armed forces in a state of high combat readiness. It is in CPSU leadership that the main source of power and invincibility of the Soviet Army and Navy lies.

The USSR Armed Forces are performing their duty in a single formation with the armies of the Warsaw Pact countries. Their cooperation is permeated by a spirit of internationalism based on the principles of equality, mutual respect and sovereignty, and it includes increasingly closer coordination of the plans for development of the armed forces of the allied countries, successive implementation of a single military-technical policy and of mutually coordinated measures, and exchange of experience in troop training and indoctrination. This goal is also the objective of the increasingly more fruitful cooperation of political organs and party organizations.

The flowering of the socialist multinational culture has reflected itself in the armed forces as well. The material base of cultural education has been created here, and it is growing constantly stronger. In recent years, for example, the availability of television sets to the personnel has tripled, and the availability of radios has increased tenfold. They are now present in every company, battery and squadron.

Every garrison, even the smallest, possesses its own library containing both political and special literature, and creative literature. During their years of service in the army, soldiers have the possibility for reading the best works of the Russian and Soviet classicists, and to acquaint themselves with the best foreign literature. As a rule special reading programs intended for the entire period of service are drawn up for the personnel. Librarians conduct readers' conferences, literary evenings and book discussions. All of this makes it possible for the young person to expand his outlook and raise his intellectual level during his years of service.

Fulfilling the requirements of the 26th CPSU Congress on reorganizing many sections and spheres of ideological work, the political organs, party and Komsomol organizations, employees of clubs, libraries, offiers' clubs and museums, and professional art collectives are achieving new successes in cultural and esthetic education of the soldiers.

The troops receive sufficient quantities of the best works of Soviet film industry. It would be sufficient to note that the army film fund now contains up to 500,000 feature films alone. Because of the way the system of film rental bases and points is organized, the troops receive all of the latest that Soviet cinematography has to offer promptly. The plans for mass cultural work include trips to the movie theaters for privates and seamen. Movies go along with the soldiers when they take to the field for maneuvers and exercises, and when they ship out on distant cruises.

Owing to the concern of the Communist Party and the selfless labor of our people, the army is outfitted with the most sophisticated weapons, including nuclear missiles, and powerful combat equipment. Its organizational structure, its personnel training system, the theory and practice of troop training and indoctrination and military science all satisfy the requirements of modern warfare.

The aggressive intrigues of imperialism compel us and our fraternal socialist states to concern ourselves, and concern ourselves seriously, with keeping defense capabilities at the required level, said CPSU Central Committee General Secretary Yu. V. Andropov. We know quite well, he noted, that we cannot ask imperialists to be peaceful. Peace can be defended only by relying upon the indestructible power of the Soviet Armed Forces.

As was noted in the political declaration of the Warsaw Pact states, the situation is now becoming continually more complex, international tension is growing, and the military threat, primarily nuclear, is intensifying. Under these conditions Soviet soldiers deeply recognize their responsibility before the Communist Party and the people for the mission imposed upon them, they are persistently improving their combat and political training, and they are alertly protecting the peaceful labor of the Soviet people and the great accomplishments of socialism.

Decisions of the November (1982) CPSU Central Committee Plenum and the celebrations held in honor of the 60th anniversary of the USSR's formation elicited

a new influx of labor enthusiasm in Soviet soldiers. Soviet soldiers are performing their duty with the motto: "Increase alertness and reliably insure the motherland's security." The troops responded widely to the appeals made by the initiators of the socialist competition--soldiers in the Strategic Missile Forces unit commanded by Lieutenant Colonel A. Pavlov, the Guards Tank Regiment imeni G. I. Kotovskiy (commander Guards Lieutenant Colonel V. Dyukov), the Guards Surface-to-Air Missile Regiment headed by Guards Lieutenant Colonel V. Nechayev, the Guards Bomber Air Regiment commanded by Guards Lieutenant Colonel V. Tatarchenko and the crew of an atomic missile submarine (commander, Captain 1st Rank A. Samokhvalov). They appealed for improvements in combat and political training, for greater alertness and combat readiness and for stronger military discipline.

The most important element of the armed forces' combat potential, next to high equipment availability and military proficiency, is indestructible morale. Workers of Soviet culture are making a great contribution to developing high morale and to heroic-patriotic indoctrination of the soldiers. Masters of literature and art fully understand the concerns and joys of the Soviet soldiers, and they are devoting all of their strength and all of their talent to the cause of defending the socialist fatherland.

Development of cultural sponsorship attests to the growing friendship between the creative intelligentsia and army and navy troops. This sponsorship is now represented by an entire complex of directions and forms of ideological and organizational work. Thousands of members of the All-Union "Znaniye" Society, workers of the theater and motion picture industry, employees of television and radio broadcasting and representatives of creative unions of writers, artists, composers, cinematographers and architects participate in cultural sponsorship each year. Each year about 2 million different measures are implemented in the troops.

On Soviet Army and Navy Day, Soviet soldiers express their love and respect for scientists, writers, artists, performers, musicians and architects. They are grateful to their patrons, and to all who are sparing no effort or time to acquaint the soldiers with the treasurehouse of the best in science and culture.

Kirgiz SSR

Frunze SOVETSKAYA KIRGIZIYA in Russian 13 Feb 83 pp 1-2

[Article by Lt Gen Tank Trps M. N. Akhunov, first deputy troop commander, Red Banner Central Asian Military District: "Standing Guard Over the Accomplishments of October"]

[Text] Raising the banner of October high, the planet's first socialist state proclaimed its birth with a document that was unprecedented in those days--Lenin's Decree of Peace. But even then, the leader of the world proletariat foresaw that international imperialism would not abandon its attempts at strangling the revolution. And guiding itself by Lenin's directive that no revolution would be worth anything unless it is able to defend itself, a strictly disciplined regular army, called upon to protect the accomplishments

of socialism and the popular government, was created by the will of the party of Bolsheviks and by the will of the people.

In savage combat with White Guards and foreign interventionists, beneath the Red banners of the Red Army, the sons of all peoples of our great fatherland fought. They marched together in combat for peace, bread and land, and for the power of the soviets. Their revolutionary spirit, their belief in the justice of their cause and their unprecedented courage led to victory in the savage encounter with the enemy. They won because they fought a just war, because they fought under the command of the Communist Party, which relied upon the strong union of the workers and peasants and the friendship of peoples, and which stood as a warring party, one which was together with the masses and at the head of the masses.

Our army and navy displayed incomparable heroism in the Great Patriotic War. In the face of mortal danger, the Communist Party unified its ranks, the army and the people even closer, and evoked all of the country's strength for the defeat of fascism. From the first days of the fighting, the superiority of the Soviet soldier, his flaming patriotism, his deepest devotion to the cause of the party and the people, and his steadfastness and selflessness revealed themselves with full force.

Soldiers of all nationalities entered into mortal combat with the despised enemy. And the motherland gave a high evaluation to the acts of heroism of its sons and daughters. More than 7 million persons were awarded orders and medals and over 11,000 were given the Hero of the Soviet Union title for heroism, courage and valor, displayed in battles for the motherland and for liberation of the peoples of Europe from the fascist yoke. Representatives of the Kirgiz people fought fearlessly on the fronts of the Great Patriotic War. Thousands of Kirgiz soldiers were honored with high government awards, including soldiers of the legendary Panfilov Division. Never in the past had the heroism of the fatherland's defenders assumed such a mass all-peoples nature. Thus, the immortal deed of Private A. Matrosov, the 40th anniversary of which is being celebrated today, was repeated by about 300 persons, to include Ch. Tuleberdiyev, a glorious son of the Kirgiz people.

The victory in the Great Patriotic War was not only a military victory but also a political and economic one. It persuasively demonstrated the superiority of socialism over capitalism, and it was the triumph of Marxist-Leninist ideology, of Soviet patriotism and proletarian internationalism and of the indestructible friendship of the peoples of our country.

Those manacing years are in the past. The Soviet people are now laboring beneath peaceful skies for their 4th decade without war. A substantial contribution was made to this great achievement of modern times by Soviet soldiers. The Soviet Armed Forces are a powerful factor of peace and security, and a dependable means of restraining aggressive forces. And the people are sparing nothing to make sure that they are always capable of performing their mission. As the country's economic power rises, the combat potential of the army and navy--a strong alloy of high equipment availability, military proficiency and the indestructible morale of the Soviet soldiers--rises and multiplies also.

Our people have placed menacing modern weapons into the hands of the sons and grandsons of the veterans, so that they could watchfully and reliably guard the accomplishments of October and honorably continue the glorious traditions of the army. But the fighting power of the army and navy lies in more than just top-class missiles, airplanes and tanks. It is multiplied a hundredfold by the fact that these menacing weapons are in the hands of soldier-patriots and internationalists.

Improvements are being made from day to day in combat and political training, in field and aerial skills, and in the ability of the soldiers to successfully complete difficult missions in mountains and desert, day and night, with full and reduced manning and with better than standard indicators. The socialist competition with the motto "Raise alertness, dependably insure the motherland's safety!", which has assumed a wide scope, is mobilizing Central Asian soldiers for proficient mastery of modern combat equipment and weapons and for their effective use in the complex situation of modern combat.

Soldiers of the legendary Panfilov Division and soldiers and officers of the famous Guards motorized rifle Red Banner regiment formed in 1918 are honorably continuing their traditions. Some of them have been awarded the USSR minister of defense's banner "For Bravery and Military Valor" for their successes in combat and political training. This is one of the indications of the desire of Guards soldiers to be worthy successors of the glory of former soldiers in their regiment--Heroes of the Soviet Union D. Dyatlov, S. Rassokhi, Ye. Chuykov and I. Tret'yak.

Daily life and combat training persuasively demonstrate that constantly measuring up to the level of the veterans, grandfathers and fathers has become a vital necessity of the soldiers. From them, they are learning courage, the art of winning, persistence and decisiveness.

There was once a tactical lesson in live grenade throwing. One of the soldiers unexpectedly shifted a grenade with its pin pulled out from one hand to the other. It took but an instant for Officer Aleksandr Kiselev to evaluate the danger and make a decision--to save the life of the soldier at the cost of his own life. The officer was seriously wounded, but he made it back. For the courage he displayed, A. Kiselev was awarded the Order of the Red Star, and he is now a student at the Military-Political Academy imeni V. I. Lenin.

There are many servicemen in the district's units and subunits who have been awarded orders and medals for proficient mastery of new combat equipment and weapons and for successes in combat and political training. They include officers Yu. Zaynullin, B. Ivanov, V. Prikhod'ko, P. Leshchenko and many others. And recently Officer V. Kot was awarded the lofty title of Hero of the Soviet Union for exemplary fulfillment of military duty and for heroism displayed in the performance of official obligations.

It is in ideological conviction, in faithfulness to communist ideals and in flaming patriotism that the springs which nurture the strength of the Soviet soldier lie. This is why our commanders, political organs and party and Komsomol organizations devote constant concern for the ideological maturity

and the high political consciousness of the personnel in their work with people. The entire vast arsenal of resources and forms of ideological influence, and all of the political indoctrination conducted in the units and subunits serve these goals. Deep study of the proceedings of the 26th CPSU Congress, of the decisions of the May and November (1982) CPSU Central Committee plenums and of the report given by Central Committee General Secretary Comrade Yu. V. Andropov at the solemn meeting dedicated to the 60th anniversary of the USSR is central to the rich spiritual life of the soldiers.

The army is one with the people. Therein lies its strength and its power, which it takes, as with a mighty tree, from its mother earth. Central Asian soldiers are surrounded by the concerns and attention of local party and soviet organs, Komsomol organizations, labor collectives and creative unions wherever they go. This has a favorable influence on forming the political and moral qualities of the servicemen and on raising their social activity and cultural level.

The district's units and subunits always give a warm reception to the laborers of the Kirgiz SSR, war veterans, party workers and officials of science and culture. Firm friendship binds the soldiers of the Frunze and other garrisons to many labor collectives in the republic. They act as sponsors of schools, helping them to conduct "Zarnitsa" and "Orlenok" games, they meet with young men and women in DOSAAF clubs and schools, and they participate in pilgrimages to places of revolutionary and combat glory. All of this is having a good influence by improving the military-patriotic indoctrination of the young, and it is one of the most important ways of reinforcing the unity of the army and people and mobilizing soldiers for selfless labor in behalf of strengthening the country's economic and defensive power.

The Soviet people are triumphantly celebrating the birthday of the Soviet Army and Navy, and they are showing their deep respect to those who have defended the honor and independence of the socialist motherland with weapons in hand, and those who are now standing guard over the accomplishments of Great October, in constant combat readiness guaranteeing an immediate repulse to any aggression, no matter from where it comes.

Azerbaijan, Armenian, Georgian SSR

Yerevan KOMMUNIST in Russian 23 Feb 83 p 1

[Article by Col Gen O. F. Kulishev, troop commander, Red Banner Transcaucasian Military District: "The Mighty Guard of Socialism and Peace"]

[Text] The chronicle of the Soviet state is a sacred depository of events and dates associated with combat valor and the glory and might of our people. One such remarkable date is 23 February--Soviet Army and Navy Day.

This year's army and navy holiday is being celebrated in a time when the Soviet people, inspired by decisions of the November (1982) CPSU Central Committee Plenum and by the proceedings of the joint solemn meeting held in Moscow in honor of the 60th anniversary of the USSR, are working selflessly to

successfully fulfill the plan for the 3rd and central year of the 11th Five-Year Plan.

The birth and development of the Soviet Armed Forces are inseparably associated with the name of V. I. Lenin and with the activities of the Communist Party. Lenin did a historic service by justifying the objective need for defending the revolutionary achievement of laborers and by developing the military program of the proletarian revolution and the teaching on protection of the socialist fatherland.

During the fiery years of the civil war and the foreign military intervention, the Communist Party, with V. I. Lenin at its command, unified the Soviet republics into a single military-political alliance and inspired the laboring people to defeat the enemy. In savage battle with White Guards and interventionists, the sons of all nations of our great fatherland fought shoulder to shoulder. Owing to their selfless courage the Red Army was able to defend the accomplishments of Great October.

The 11th Army, which was the foundation of our district and which came to the aid of its brothers--the laborers of Azerbaijan, Armenia and Georgia--in response to the call of the rebelling peoples of the Transcaucasus, entered glorious pages into the chronicle of the civil war. It was precisely in those years that the firm foundations of brotherly friendship between the republic's laborers and the district's troops, who had traveled a glorious path of war and victory under the Communist Party's leadership, were laid.

Fulfillment of Lenin's plan for building socialism--achievement of socialist industrialization, collectivization of agriculture and the cultural revolution--transformed the Soviet Union into a mighty socialist power. The party implemented a system of measures to strengthen the armed forces. All of this multiplied the possibilities for defending the motherland and raised the capability of our country to stand up against and vanquish any imperialist aggressor.

The Great Patriotic War against German fascism--a monstrous offspring of world imperialism and reaction--was the harshest test of the strength of the Soviet state and the power of its armed forces. Under the leadership of the Communist Party all Soviet people rose to the defense of the motherland, and the entire country transformed into a single military camp.

Our victory was not an easy one. Hard was the path traveled by the army and people in the 1,418 days and nights of war. Turning back to the pages of the chronicle of the Great Patriotic War today, the Soviet people delight again and again in the courage, steadfastness and heroism of the defenders of Brest, Leningrad, Kiev, Odessa, Sevastopol, Kerch, Novorossiysk and Minsk, and in the participants of the battles of Moscow, Stalingrad, the Caucasus and the Kursk salient, and the combat operations of 1944-1945.

The battle of the Caucasus, which lasted 15 months, was among the greatest engagements of the Great Patriotic War. In the eleventh hour the laborers of Georgia, Azerbaijan and Armenia united themselves even more closely about the

Leninist party within a single formation with other peoples of our country and rose to the defense of the motherland. In the hard and bloody battles troops of the Caucasian Front wore down the fascist German army and then, going over to a powerful offensive, subjected it to an annihilatory defeat. The Soviet soldier marched to Berlin through all of the difficulties and deprivations, through the fire of unprecedented engagements, and unfurled the Banner of Victory over the defeated Reichstag. Fulfilling its obligations as an ally, the Soviet Union and its Red Army defeated the troops of militant Japan.

The victory of the Soviet Union in the Great Patriotic War over the strike forces of imperialism--German fascism and Japanese militarism--clearly revealed the insurmountable strength of the Soviet social and state structure and Communist ideology, the indestructibility of the friendship of the peoples of the USSR and the mass heroism of the Soviet people, and it demonstrated the great organizational and guiding role of the Leninist Communist Party. This was a harsh and unforgettable lesson of history, a stern warning to imperialist aggressors.

It is now the 4th decade that the Soviet people are living and laboring beneath peaceful skies. Great are our successes in economic and social development, and grandiose are the plans and prospects. But their successful implementation requires peace. The aspiration of our party and people for peace and the untiring struggle for its consolidation always exist in a single unit together with the political alertness of the Soviet people and their constant concern for protecting the socialist fatherland. The reason for this is that adventurism and the preparedness to stake the vital interests of mankind in behalf of narrow self-interested goals are especially clear in the policy of imperialism.

Spreading the myth of a supposed "Soviet military threat," the ruling circles of the USA have intensified their political, ideological and economic pressure on socialism and on the movement of national liberation. President Reagan has declared a "crusade" against the USSR and other socialist states.

The USA's aspirations for world hegemony are being supported by an unprecedented arms race, which is now entering into a qualitatively new, much more dangerous phase embracing new forms of arms, both nuclear and conventional, all forms of military activity and practically all regions of the world. Just in the last 5 years (1983-1987) the Pentagon's expenditures were more than $1.6 trillion. This is six times more than the USA's military expenditures for all of World War II.

The situation on the southern borders of our motherland continues to grow more complex. At the fault of American imperialism and Israeli aggressors, the Near East conflict is growing increasingly more acute.

On the whole, as was noted in the political declaration of the Warsaw Pact countries, the situation is becoming increasingly more complex, international tension is growing, and the threat of war, especially nuclear, is intensifying.

Guiding communist construction under these conditions, our party is compelled to constantly concern itself with strengthening the country's defense capabilities.

"Giving the army and navy everything they need," noted CPSU Central Committee General Secretary Yu. V. Andropov in his speech to the November (1982) CPSU Central Committee Plenum, "has always been considered by the Politburo, and is so considered now, to be a necessary thing, especially in the present international situation."

Owing to the untiring concern of the Communist Party and the selfless labor of the Soviet people, our army and navy are outfitted with the most sophisticated weapons, including nuclear missiles, and powerful combat equipment. One of the decisive factors of the fighting power of our armed forces is the truly inexhaustible morale of the Soviet people and their armed defenders, their limitless love and devotion to the socialist motherland and the cause of the Communist Party.

Transcaucasian soldiers are meeting the 65th anniversary of the Soviet Army and Navy with new successes in combat and and political training. The socialist competition with the motto "Raise alertness, dependably insure the motherland's safety!" has experienced an increase in momentum in our troops, as well in all of the Soviet Armed Forces.

The friendship of the district's soldiers with the laboring collectives and the workers of science and culture of Armenia, Azerbaijan and Georgia is growing from one year to the next. The personnel are proud of the republic's successes in communist construction. The district's soldiers wish the laborers of the Transcaucasus new, great accomplishments. An extensive effort of military-patriotic indoctrination of laborers and preparation of young people for military service is proceeding in the republic with the active participation of veterans of the USSR Armed Forces and the district's soldiers. It is in the unity of the army and people that a guarantee overall success in construction and defense of communism lies.

Created 65 years ago by the great Lenin and the Communist Party, the Soviet Armed Forces have always served their purpose honorably. Soviet soldiers are deeply aware of all of the complexity of the modern international situation. They understand quite well that the imperialists cannot be asked to be peaceful: The peace must be protected and defended. This is why the Soviet Armed Forces are displaying the greatest alertness, why they are dependably insuring the security of our motherland and the countries of the socialist fraternity together with the armies of the fraternal states, and why they are always ready to respond to any aggressor with an annihilatory repulse.

Tajik SSR

Dauhanbe KOMMUNIST TADZHIKISTANA in Russian 23 Feb 83 p 2

[Article by Col Gen V. M. Arkhipov, chief of staff, first deputy troop commander, Red Banner Central Asian Military District: "Standing Guard Over Peace"]

[Text] The heroic landmarks in the biography of our armed forces clearly attest to the unwavering devotion of Soviet soldiers to the people, the

motherland and the cause of communism. The birth of the Soviet Army and Navy and their heroic history are inseparably associated with the name of V. I. Lenin. The leader of the party possesses the great credit for developing the military program of the proletarian revolution and the teaching on defense of the socialist fatherland. Vladimir Il'ich pointed out many times that the victorious proletariat must demonstrate its capability for building the new society and its military organization. "To defend the power of the workers and peasants..., we need a mighty Red Army," emphasized V. I. Lenin.

Wise Leninist leadership and the enormous organizational activity of the Communist Party became the decisive condition of our victory in the civil war over the combined forces of international imperialism and internal counter-revolution. The creator of our party and state developed the principles of Soviet military organization, which remain fundamental to solving the problems of improving the army and navy today.

Emerging victorious from the civil war, socialism won its first decisive battle against imperialism. The Communist Party and Soviet government foresaw the inevitability of armed struggle with imperialist aggressors and prepared the country for defense. Attempts by the enemies of socialism to test the strength of our state by force of arms were not graced with success either on the Far East Railroad in 1929, or in the vicinity of Lake Khasan in 1938, or at the Khalkhin-gol River in 1939.

Treacherously violating the nonaggression pact, on 22 June 1941 the fascist German invaders entered our country's territory. Led by the Communist Party, the Soviet people rose as one to the defense of their socialist motherland. The Great Patriotic War became the greatest military collision between socialism and the strike forces of imperialism.

The Soviet Armed Forces honorably fulfilled their duty before the motherland and their international duty before the laborers of all the world. There are many unforgettable pages in the heroic chronicle of the war telling us about the legendary defense of the Brest Fortress, Moscow, Leningrad, Odessa, Sevastopol, Stalingrad, Novorossiysk and other cities.

The defeat of fascist German troops at Moscow was a decisive military-political event of the first year of the patriotic war. In the battle of Moscow, the fascist plan for a "blitzkreig" was undone forever, and the myth of the invincibility of Hitler's army was scattered to the winds.

Enemy troops lost about a million and half enlisted men and officers in the battle of Stalingrad. Stalingrad and the foothills of Caucasus were as far as the fascist invaders would ever progress. The battle of Kursk was the culmination of the turning point in the course of the Great Patriotic War and World War II. The Berlin operation, during which an enemy grouping almost a million soldiers strong was destroyed, was the final blow.

The world-historic victory persuasively demonstrated the decisive advantages of the Soviet social and state structure and the superiority of socialism over capitalism. Socialism brought about the indestructible unity of Soviet society,

the power and unprecedented mobility of its economy and progressive development of military science, and it nurtured remarkable soldiers and military leaders. Our victory was a triumph of the ideology of Marxism-Leninism, the ideals of Soviet patriotism and proletarian internationalism, and the indestructible friendship of the peoples of the USSR.

Today the Soviet Armed Forces are honorably serving their intended purpose--they are standing a watchful guard over the accomplishments of socialism. Marching in a single combat formation with the armies of the countries of the socialist fraternity, Soviet soldiers are performing their great mission in an exemplary manner. In response to the aggressive intrigues of imperialism and the growth in military preparations by the USA and NATO, directed against the Soviet Union and other socialist countries, the Communist Party and the Soviet government are showing untiring concern for strengthening the country's defense capabilities and improving the military organization of socialist society.

Consistently and purposefully implementing the Peace Program, the CPSU is making a full effort to insure the defensive power of the country.

Scientific-technical progress in military affairs has raised the requirements imposed on the soldiers and on their education, culture and morale even more. The command, political and technical personnel of the army and navy--the best representatives of the Soviet people--are wholly devoted to the cause of Communism, and they possess high moral-political qualities, psychological maturity and the ability to execute their missions. Most officers are communists and Komsomol members. More than half of them have a higher military and a military special education.

Faithful to communist ideals, soldiers of the Red Banner Central Asian Military District are alertly protecting the sacred borders of the fatherland. Many of the district's servicemen have earned high awards from the motherland in peacetime.

Central Asian soldiers are holding sacred and multiplying the glorious combat traditions of the Soviet Armed Forces. Standing shoulder to shoulder in a single army formation, representatives of all nationalities and nations of our fatherland are performing their important missions.

The course of winter combat training is persuasively revealing the deep understanding soldiers have of their patriotic and international duty. Training plans and socialist pledges are being fulfilled successfully in the units and formations, the qualitative indicators of field and aerial skills, and of tactical and fire training have risen, and the ranks of outstanding soldiers have grown larger. Dozens of soldiers called up for active first-term service from Soviet Tajikistan can be found among the leaders of the socialist competition with the motto "Raise alertness, dependably insure the motherland's safety!" Komsomol commanders Sergeant A. Mukhtarov, Junior Sergeant M. Rakhimov and Private R. Rakhmanov have been rewarded many times for outstanding training and service.

The power and strength of the army and navy lie in their inseparable unity with the people. Ties of sponsorship between military units and the enterprises and training institutions of Tajikistan are growing stronger and wider. Party, trade union and Komsomol organizations of the plants, institutions, kolkhozes and sovkhozes are working actively and purposefully in behalf of the military-patriotic indoctrination of the laborers and preparation of young people for service in the army and navy.

The Soviet Armed Forces are a school of indoctrination of the Soviet young. Reserve soldiers retain throughout their entire lives the remarkable qualities they acquire in the armed forces, and they gratefully recall their schooling in military service. At the shock construction projects of the country, former enlisted men and sergeants set the tone of the work, cement the labor collectives and influence their microclimate.

Central Asian soldiers are greeting the 65th anniversary of the Soviet Army and Navy with successes in combat and political training; they are honing their combat proficiency and learning the science of winning with full commitment of their strength and energy. They are prepared to honorably fulfill their duty at any moment, to meet any aggressor with an annihilatory repulse, if he ever dares to transgress upon the security of our beloved socialist motherland.

Latvian SSR

Riga SOVETSKAYA LATVIYA in Russian 23 Feb 83 p 1

[Article by Col Gen S. I. Postnikov, troop commander, Red Banner Baltic Military District: "Dependable Guard of the Motherland"]

[Text] Among the noteworthy dates dear to the hearts of all Soviet citizens, 23 February, the birthday of the Soviet Army and Navy, occupies a worthy place. On this day, the Soviet people pay honor to their armed defenders alertly standing guard over the motherland, and they pay the tribute of deep respect to the frontline heroes and to all who forged victory in mortal combat with the enemies of socialism with weapons in hand.

Our people and the Soviet soldiers are celebrating the 65th anniversary of the USSR Armed Forces in an atmosphere of high political inspiration and labor enthusiasm elicited by decisions of 26th CPSU Congress, the November (1982) Central Committee Pleunum and the speech given at it by CPSU Central Committee General Secretary Comrade Yu. V. Andropov. Our people are rightfully proud of the outstanding achievements in all areas of communist construction. The labor of the Soviet people has created a gigantic production potential making it possible to insure successive development of the economy--the main factor of raising the welfare of the people and maintaining the country's defenses at the required level.

The young Republic of the Soviets found it necessary to defend itself against armed attacks by the combined forces of internal and international counter-revolution from the 1st days of its existence. Under the guidance of V. I. Lenin the party fostered a regular class army tied by inseparable knots to

the people, exhibiting high political awareness and having facility with all methods and forms of armed conflict.

Despite improbable difficulties, within the very first years of Soviet rule the Red Army totally defeated the White Guard hordes of Kolchak, Denikin, Yudenich and Wrangel, the troops of the Polish landowners and the American, English, German, Japanese and other interventionists.

Following the civil war the country initiated peaceful development. Our armed forces improved as well. But imperialism would not rest, it did not wish to accept the fact that a bright star of liberty, justice, equality and brotherhood had risen over one-sixth of the globe. The capitalists undertook new attempts at testing the strength of our structure. Such was case on the Far East Railroad, at Lake Khasan, on the Khalkhin-Gol River and on the Karelian Isthmus. These attempts received their due repulse.

But this was only the prelude to the harshest test in the history of our motherland. Prodded on by the ruling circles of the Western powers, Hitler's Germany treacherously attacked the USSR.

The bloody battle against fascism lasted 1,418 days and nights of fire. In the battles of Moscow and Stalingrad, at the Kursk salient, beside the walls of Leningrad and in the Belorussian, Vistula-Oder and Berlin offensive operations the Germans felt the full force of the annihilatory power of our blows, which shook the fascist state and its robbing armies to their foundations. Having raised the saber against our fatherland, the enemy found himself defeated. The Red Army completed its international duty, having liberated the peoples of Poland, Czechoslovakia, Bulgaria, Rumania, Hungary, Yugoslavia, Austria and Norway from German enslavement. It also brought liberty to the German people.

The incomparable acts of heroism of soldiers of the Soviet Army and Navy, who shielded the motherland from mortal danger by their own lives, will not fade for centuries. More than 7 million persons were awarded orders and medals, and more than 11,000 persons were given the Hero of the Soviet Union title for courage and valor. Almost 11,000 combat orders decorated the banners of the formations and units. The road of combat of the Latvian CXXXI Rifle Corps, the personnel of which fought the Germans heroically at Naro-Fominsk and Staraya Russa and liberated Latvia from the invaders, is illuminated by the light of victory and military valor. Many brilliant pages were added to the country's glorious military chronicle by soldiers of Guards Training Motorized Rifle Sevastopol Red Banner Regiment imeni Latyshskiye Strelki.

Having healed its grave wounds, inflicted by the devastating war, the Soviet people implemented the grand designs of the Communist Party, they built a developed socialist society, and they are now moving confidently forward--to communism.

Our achievements elicit the rabid malice and hatred of the militant circles of imperialism, headed by the U.S. administration. They are pursuing a course of undermining detente, they are spiraling the arms race upward, pursuing a policy of threats and interference in foreign affairs, and they are trying to push

mankind into the abyss of thermonuclear catastrophe. In this complex international situation the CPSU and the Soviet government are displaying restraint, firmness and principles, they are not yielding to provocations, they are firmly rejecting imperialist claims, and they are taking all steps to dependably defend our motherland and the great accomplishments of socialism.

Following Lenin's teaching on defense of the socialist fatherland, and creatively developing it, the Communist Party is devoting constant attention to strengthening our state's defensive power and raising the combat potential of the USSR Armed Forces. V. I. Lenin's ideas and directives concerning the country's defense and raising the fighting power of the Soviet Armed Forces were deeply reflected and developed in the CPSU Program, in decisions of the party congresses and in the new USSR Constitution. For the first time in history a special chapter titled "Protection of the Socialist Fatherland" was included in the Fundamental Law of our state. It clearly spells out that protection of the socialist fatherland is among the most important functions of the state, and it is an affair of the whole people.

The Soviet Armed Forces are constantly keeping abreast of scientific-technical progress. "As always," CPSU Central Committee General Secretary Comrade Yu. V. Andropov emphasized in his speech to the November (1982) Plenum, "the needs of defense are sufficiently accounted for. Giving the army and navy everything they need has always been considered by the Politburo, and is so considered now, to be a necessary thing, especially in the present international situation."

Military technology, the organizational structure of the troops and the control and support system underwent fundamental change in the postwar era, as a result of which the combat potentials of the armed forces multiplied. Our army was supplied with highly complex combat vehicles, missile complexes and electronic systems, atomic submarines, supersonic airplanes and fire support helicopters.

Together with all soldiers of the Soviet Armed Forces the personnel of units and subunits of the Red Banner Baltic Military District are fulfilling their constitutional and patriotic duty before the people. A clear example of this can be found in the exemplary actions of Baltic soldiers in exercise "Zapad-81," conducted under the guidance of the USSR minister of defense, Marshal of the Soviet Union D. F. Ustinov.

Enlisted men, NCOs, warrant officers and officers have actively joined the socialist competition with the motto "Raise alertness, dependably insure the motherland's safety." In field lessons and tactical exercises, in the course of firing practices and missile launchings and while driving their combat vehicles, soldiers of all branches of troops and specialties are untiringly improving their combat proficiency and their moral, psychological and physical maturity, they are striving to make maximally effective use of the combat potentials of modern equipment and weapons, and they are strengthening discipline and organization.

Subunits in which Heroes of the Soviet Union Guards Private Aleksandr Matrosov, Senior Lieutenant Ivan Tkachenko, Guards Junior Sergeant Yuriy Smirnov and many

others are perpetually enrolled are marching in the front ranks of the competitors. For example the squadron in which Guards Major Chichiko Bendeliani is perpetually enrolled is successfully performing the most complex combat missions of protecting the air borders of the motherland. In it, all pilots are specialist 1st class.

The sons and grandsons of the heroes of the Great Patriotic War are holding sacred and multiplying the glorious combat traditions of the veterans by their military deeds. During the last training year the best military collectives were awarded the perpetual Red banners of the Central Committee of the Latvian Communist Party, the Presidium of the republic's Supreme Soviet and its Council of Ministers for successes achieved in combat and political training in the past training year. The party and government hold the military labor of the soldiers in high esteem. Just last year alone, 225 persons were awarded orders and medals. The names of officers B. Romanov, Yu. Alyukevich, V. Baranov, Ye. Bakayev, V. Vushkan, P. Mironov, V. Abramenko, A. Lindenberg, A. Pommers and others are well known in the district. These are top-class commanders, masters of combat qualification and the best teachers.

Among the outstanding soldiers of combat and political training there are many who represent Soviet Latvia. Take for example Junior Sergeant Andris Shtans. Prior to serving in the army he worked in the city of Bauska. His work experience made it possible for him to become proficient with the combat equipment and weapons quickly, and to become a classed specialist and the commander of and outstanding detachment. Andris is the son of a veteran, a cavalier of many battle awards, and he is worthily continuing the glorious combat traditions of the older generations of the motherland's defenders. Yanis Bronislavovich Shtans has reason to be proud of such a son.

Artur Liyepin'sh, formerly a milling machine operator from Riga and presently a private, former engineer Maris Asars and many others are fulfilling their constitutional duty in exemplary fashion.

Man plays the decisive role in war. This was and is a hard-and-fast truth. We express sincere gratitude to party and soviet organs and to the republic's labor collectives for the fact that they are understanding of our problems, that they actively help commanders and political workers to nurture ideologically convinced armed defenders of the motherland who are wholly devoted to the party and people.

Greeting the 65th anniversary of the Soviet Armed Forces, Baltic soldiers deeply recognize their responsibility for protecting the northwestern borders of the fatherland, and they are doing everything they can to be constantly ready for immediate repulsion of any aggressor.

Belorussian SSR

Minsk SOVETSKAYA BELORUSSIYA in Russian 23 Feb 83 p 1-2

[Article Army Gen Ye. Ivanovskiy, troop commander, Red Banner Belorussian Military District: "Standing Guard Over Socialism"]

[Text] The Soviet people, their armed forces and our friends abroad are commemorating the birth of the Soviet Army and Navy for the 65th time. In the

constellation of other holidays, days of celebration and noteworthy dates, this one is especially close and precious to the Soviet people. It marks the creation of a military organization which is reliably defending the inviolability of socialist accomplishments.

Our army and navy have served the socialist fatherland for 65 years, and they are reverently fulfilling their missions. Born of Great October and called upon to dependably guard the revolution, they have traveled a long and glorious combat road. Every page of their biography is testimony to the courage and heroism of Soviet soldiers, their high combat proficiency and their boundless devotion to the people and the Communist Party.

Construction of the armed forces of the world's first workers and peasants state is inseparably associated with the name of V. I. Lenin. Developing the teaching on protection of the socialist fatherland, Vladimir Il'ich persistently emphasized the thought that no revolution would be worth anything unless it is able to defend itself. History has persuasively confirmed the correctness of this Leninist premise and its unfading significance. The constant danger of imperialist aggression was the most important feature of the international situation in which socialism underwent development in our country. Figuratively speaking the Soviet people created the new society in one hand and were compelled to hold weapons in the other in order to repel the numerous attacks by the enemies.

V. I. Lenin deserved credit for the fact that in creating the armed organizations of the victorious proletariat, he developed the fundamental principles of construction of the armed forces and of their training and indoctrination, and he laid the foundation of Soviet military science. Lenin's premises on the class nature and source of wars and on the permanent nature of party leadership of the armed forces still have colossal significance. They make it possible for our party and for the Communist parties of the socialist countries to determine the strategy and tactics of war and peace, and to competently direct the activities of the military organizations of their states.

For more than 3 years the young Republic of the Soviets was engulfed by the flames of civil war. The young Red Army fought in improbably difficult conditions. Suffering continual shortages of arms and clothing, half-starved, it fought against the well equipped and trained troops of the Entente and the internal counterrevolution, and against troops possessing rich professional military experience accumulated over the centuries. Displaying unprecedented steadfastness and heroism, warriors of the Red Army totally defeated the combined forces of counterrevolution and defended their socialist fatherland.

The victory in the civil war was the result of a strong union of the working class and the peasantry, the fraternal friendship of the peoples of our country and the inseparable unity of the army and people. V. I. Lenin and the Communist Party provided direct leadership to the armed forces and determined the principal ways of executing their missions.

After achieving a historic victory in the civil war and initiating peaceful development, our people and the Communist Party never forgot for even a single

day the constant threat emanating from world imperialism and primarily from fascist Germany. Steps were taken to strengthen the country's defenses: The army and navy were reequipped, and defense industry was created and improved. Its development proceeded three times faster in the prewar years than did the development of other industrial sectors. At the cost of the titanic efforts of the party and all Soviet people, the armed forces our country created were so powerful that in terms of their combat potential they were not inferior to the armies of the leading capitalist states, while in terms of the morale and the political state of the personnel, they were significantly superior. Life confirmed the importance and timeliness of this work.

The Great Patriotic War, the cruelest and bloodiest of all wars known to history prior to this time, became the hardest trial for our people and their armed forces. In a gigantic battle between two sociopolitical systems the fate of not only our country but also of all world civilation was resolved, and the future of mankind was decided.

In battles with the enemy, Soviet soldiers demonstrated exemplary courage and self-sacrifice, mass heroism and an unshakable faith in their motherland and the Leninist party. The acts of heroism of the defenders of the Brest Fortress, Moscow, Leningrad, Odessa, Sevastopol and Stalingrad were inscribed in gold letters in the chronicle of the Great Patriotic War.

No , the invasion of our country was not the easy outing which German propaganda said it would be. By as early as the battle of Moscow the myth of the invincibility of the fascist German war machine was scattered to the winds. Stalingrad and the Caucasian foothills were as far as the German hordes would go, and this became a time of mourning for fascist Germany. The engagement at the Kursk salient and the attainment of the Dniepr by the Soviet troops were the culmination of the turning point in the course of the Great Patriotic War and all of World War II.

As a result of the strategic operations in 1944 the Ukraine, Belorussia and countries of East Europe were freed of the fascist invaders.

The greatest of the battles was the Berlin strategic offensive operation, as a result of which the Soviet troops took the capital of the fascist Reich by storm. The hard armed struggle, unprecendented in scale and intensity, ended with the world-historic victory of the new sociopolitical structure, of Marxist-Leninist ideology and of progressive art of war.

As in the civil war, the Communist Party was the inspiration and organizer of the great victory. Organizing Soviet people to repel the fascist German invaders, it became a truly fighting,,warring party. It unified the country into a single military camp, it united the efforts of the front and the rear, and it subordinated the whole life of the multinational state to the common cause of the enemy's defeat.

The results of the Great Patriotic War are a harsh and an unforgettable lesson of history, a stern warning to today's aggressors, who are prepared to embark

on any provocations in their attempts to undermine the positions of socialism. As was noted in the report by CPSU Central Committee General Secretary Comrade Yu. V. Andropov at a solemn meeting in the Kremlin Palace of Congresses dedicated to the 60th anniversary of the USSR, "...every step on the road to consolidation of peace was and is hard, requiring a hard struggle against imperialist 'hawks.' This struggle has become especially acute today, now that the most militant groupings that bear a class hatred of socialism that places them out of touch with reality have become active in the West." The real facts persuade us as to the accuracy of these conclusions.

Striving to achieve military superiority over the Soviet Union and other socialist countries, the ruling circles of the USA and their partners in the North Atlantic bloc are expanding their military preparations and spiraling the arms race upward. The United States is developing new, increasingly more barbarian weapons, and it is engaging in subversive activity against sovereign countries and peoples. It is to blame for the fact that the complexity of the present international situation has reached extremely dangerous limits.

Speaking at a meeting of active party members of the Order of Lenin Moscow Military District, the USSR minister of defense, Marshal of the Soviet Union D. F. Ustinov noted that it would be a great mistake to ignore the fact that the imperialist countries possess enormous economic and military potential and powerful, well trained armed forces equipped with modern weapons. The threat of war and the threat of aggression they present is a stern reality of our days.

Firmly pursuing a peace-loving foreign policy under these conditions, the Communist Party and the Soviet government are concurrently showing untiring concern for strengthening the country's defense capabilities and outfitting the army and navy with modern equipment and weapons. We need peace, it was stated at the extraordinary November (1982) Plenum of the CPSU Central Committee, but we know quite well that the imperialists cannot be asked to be peaceful. Peace can be defended only by relying on the indestructible power of the Soviet Armed Forces.

Owing to the concern of the Communist Party the Soviet Army and Navy are now at a completely new level of their development. They are outfitted with the most sophisticated weapons, menacing combat equipment and highly complex combat vehicles and missile complexes. But the fighting power of the army lies in more than just its equipment. It depends to no lesser degree on people, on their moral, political and fighting qualities. The armed forces are manned by highly trained personnel distinguished by political awareness, excellent combat skills and high responsibility for insuring our motherland's security.

Guiding themselves by the decisions of the 26th CPSU Congress and the November (1982) Plenum of the CPSU Central Committee, soldiers of the army and navy are persistently raising their combat proficiency, they are maturing ideologically and politically and they are learning to win over a strong and technically well armed enemy. Soldiers of the Belorussian Military District, one of the oldest districts in the Soviet Army, are making an important contribution to reinforcing the motherland's defensive power. Equal in age to the USSR Armed Forces, the Red Banner Belorussian Military District has traveled a heroic road of combat. In the harsh years of civil war, troops of the Western Front destroyed the hordes of White Poles, liberating Soviet territories from them. In June of 1941 they were among the first to engage the fascist invaders in combat. The acts of heroism of the enlisted men and commanders are inscribed in gold letters in the history of the Soviet Army.

The present generation of soldiers of the Red Banner Belorussian Military District is continuing the traditions of the heroic veterans. In their lessons and exercises, the personnel of the Red Banner Belorussian Military District are improving their field and aerial skills, they are mastering modern equipment and weapons, and they are displaying high moral, political and psychological maturity.

Our soldiers are greeting the 65th anniversary of the Soviet Army and Navy with good results in military labor. The "For Courage and Military Valor" pennant of the USSR minister of defense was awarded to the Guards tank regiment, a bearer of four orders, which initiated the socialist competition among the district's troops in the present training year. The successes of an artillery unit in combat training were recognized by the perpetual Red Banner of the Military Council of the Ground Troops. The district's construction directorate was awarded the perpetual Red Banner of the CPSU Central Committee, the USSR Council of Ministers, the AUCCTU and the Komsomol Central Committee for successfully fulfilling the state plan and the socialist pledges for the jubilee year.

Subunits commanded by Lieutenant Colonel G. Kol'tsov, Major G. Kochnev, captains V. Yermolayev and A. Khimich and many other military collectives are now marching among the leaders of the socialist competition. The soldiers of these subunits are focusing all of their energies on improving tactical, technical and fire training and on studying every subject and performing every combat training mission with high quality. They are learning to strike their targets with the first shot, the first launch, in conditions as close to those of real combat as possible.

Tight knots of friendship and cooperation bind the district's personnel to the laborers of Soviet Belorussia, a bearer of four orders. The workers of the republic's industrial enterprises, kolkhozes, sovkhozes and institutions visit the military collectives of the Red Banner Belorussian Military District often. Representatives of party and soviet organs and the best producers regularly speak before the personnel of the units and subunits. In turn, the district's personnel maintain ties of sponsorship with workers of the collectives, they provide systematic assistance to grain farmers of Belorussia in harvesting and transporting their agricultural products, and they are doing a great deal of work associated with heroic and patriotic indoctrination of the young.

The Soviet Army and Navy are celebrating their 65th anniversary in a state of constant readiness to perform their patriotic and international duty and to reliably insure the security of the motherland and the countries of the socialist fraternity.

United about the Communist Party, Soviet soldiers are standing a watchful guard over the accomplishments of socialism in cooperation with the armies of the Warsaw Pact countries.

11004
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TERMINOLOGY OF MILITARY UNIT CLARIFIED

Moscow KRASNAYA ZVEZDA in Russian 22 Mar 83 p 2

[Article: "Military Unit"]

> [Text] Dear editorial staff. There is very often a conflict with those who in one instance write "voinskaya chast'", and in another "voyskovaya chast'". Such different spelling is encountered in unit headquarters buildings (it even occurs in that of a formation), on seals, stamps, and in various types of documents. I am asking you to explain, how does one write correctly?
>
> Captain S. Sinetskiy

Voinskaya chast' [military unit]--is an organizationally self-sufficient tactical and administrative entity, in all services of the Armed Forces, maintained in accordance with an established shtat [Table of Organization and Equipment]. Voinskaya chast' applies to all regiments, ships of 1st, 2nd, 3rd rank, separate battalions (artillery battalions and air squadrons) not part of a regiment, and even separate companies not part of a battalion and regiment. The term "voinskaya chast'" is used when the actual name of a unit, which consists of its given number, shtat designation (if one is given), and names of its state awards (if the unit has been awarded state decorations), is implied.

Voyskovaya chast' [military unit]--is a conditional, numerical designation of military units (ships), formations and establishments of the Soviet Army, Navy, USSR MVD forces, and border guards of the USSR Committee of State Security. It is its official designation and has legal force attached to the registering of official documentation. The term "voyskovaya chast'" is used in mutual relations of units and establishments between themselves, with civil departments, organizations, enterprises and private citizens, and even for addressing and sending of all sorts of correspondence and military goods. Units and establishments of the Soviet Army and Navy stationed in the territory of the USSR have a conditional designation "voyskovaya chast'", and those stationed outside the USSR, "voyskovaya chast'--polevaya pochta [field post office]".

12198
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ARMED FORCES

RULES AND REGULATIONS DEFINED

Moscow KRASNAYA ZVEZDA in Russian 22 Mar 83 p 2

[Article: "For the Comfort of Citizens"--passages rendered in all capital letters printed in boldface in source]

[Text] Work Hours Defined

IN ACCORDANCE WITH A RESOLUTION OF THE USSR COUNCIL OF MINISTERS ON REGULATING THE REGIME OF ENTERPRISES, ORGANIZATIONS, AND INSTITUTIONS ENGAGED IN SERVING THE PUBLIC, A REGULATION WAS DEFINED ON THE WORK OF CORRESPONDING ENTERPRISES, ORGANIZATIONS AND INSTITUTIONS OF THE USSR MINISTRY OF DEFENSE AND THE MILITARY COMMISSARIATS. Specifically, it was stipulated that everyday-trade enterprises of military commerce must begin work an hour prior to the start of the work day of the service contingent of buyers, customers, and clients, and finish two-three hours after the completion of the work day of these people. Work time of the military commissariat is established in conformity with the work regime of the executive committee of the local Soviet of Peoples' Deputies. The work regime of military clinics, depots, and organs of the housing operations service are regulated as well. Pre-school children's institutions have gone to a 12-hour and around-the-clock regime due to the demand. THE OUTLINED MEASURES MUST BE IMPLEMENTED PRIOR TO 1 APRIL OF THIS YEAR.

Military Entertainment Regulations

NEW REGULATIONS OF CINEMA ENTERTAINMENT ORGANIZATIONS HAVE BEEN INTRODUCED INTO THE ARMY AND NAVY. They are implemented with the aim of communist education of military personnel, their families, and workers and employees of the Soviet Army and Navy. Political organs and unit and formation deputy commanders for the political unit plan the work of film projectors. Servicemen on active duty, personnel of ships and craft on a cruise, and even students of military educational institutions, who are not officers, warrant officers or career servicement, are admitted free. Free showings of artistic films, including those after gatherings, meetings and conferences are forbidden for other categories of viewers except in cases stipulated by rules in force.

Accident Prevention Bonuses Offered

A REGULATION HAS BEEN DEFINED FOR REWARDING AIR AND TECHNICAL ENGINEER CREWS OF AVIATION FOR ACCIDENT-FREE WORK. A bonus fund has been established with

the aim of such work in units, separate subunits on completing the school year (period of flight training), and during conditions of attaining outstanding and good ratings. It is dispersed based on the instructions of the corresponding commanders and chiefs. Bonuses may be given in the form of money as well as valuable gifts.

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QUESTIONS OF INTEREST TO DRAFTEES

Moscow KRASNAYA ZVEZDA in Russian 30 Mar 83 p 1

[Interview with Lt Gen E. Kovalev by Lt Col V. Kaz'min, KRASNAYA ZVEZDA correspondent: "In the Ranks of the Defenders of the Motherland"]

> [Text] In accordance with the Law of Universal Military Service in our country, the regular draft of youth to active military service is commencing by order of the USSR minister of defense. To exchange those fighting men transferred to the reserves the Motherland calls a new detachment of youth to the ranks of its armed defenders. Conducting the draft always summons a great political and businesslike upsurge in all labor and military collectives and attracts the profound attention of the Soviet people, testifying to the enduring unity of the army and the nation. In connection with the recurrent draft of youth into the Armed Forces our correspondent, Lt Col V. Kaz'min asked Lt Gen E. Kovalev, taking direct part in the organization of this important state undertaking, to answer several questions.

[Question] Comrade Lt Gen, what notes the features of the present draft of youth into the USSR Armed Forces?

[Answer] First of all we emphasize that, just as in previous years, our Armed Forces will receive a youthful replenishment mature in ideological-political attitude, with high general education and technical preparation, and physically tempered. Among those drafted, more than 87 percent of the youth have higher and secondary educations, close to 79 percent are members of the VLKSM (All-Union Lenin Young Communist League), and more than 98 percent are badge-holders of GTO ("Ready for Work and Defense"). More than 30 percent of the youth, in preparing for call-up to military service, received one of the technical specialties in the training organization, DOSAAF or in a system of professional-technical education. All of this is the result of the continual work of the party and the Soviet government in improving the training and education of youth, and strengthening the defensive might of the Motherland and her Armed Forces.

There is yet another feature. Now training units and schools of junior commanders are replenished mainly with students of the nation's higher educational institutions who have been called to service. This category of youth have a higher level of general education and special preparation which undoubtedly tells favorably on the quality of training of the noncommissioned officers and, on the whole, will facilitate the further strengthening of the junior commanders' institute.

[Question] Which military commissariats achieve the higher ratings in the competition for the best preparation of youth for military service and their call-up to the Armed Forces?

[Answer] The Moscow city military commissariat and those of the Dnepropetrovsk, Minsk, and Vologda Oblasts deservedly lay claim to the prize-winning places. The workers of these military commissariats efficiently and in a coordinated manner interact with the party and soviet organs, Komsomol and trade union organizations, organs of state education and health services, committees of DOSAAF, athletic organizations, enterprises, and establishments, kolkhozes, sovkhozes, and educational institutions.

In Moscow and the oblasts mentioned, much is done to increase the effectiveness of the medical-sanitation measures with youth of predraft and draft age. As a result nearly all the youth, due to the condition of their health, meet the service demands in the Armed Forces.

Here a noticeable increase in the quality of preliminary military preparation is attained, as well, in the schools and other educational institutions. An excellent material base is created for activities of physical preparation, and the demand on youth passing the norms of the athletic complex of GTO is raised. By the efforts of local organs of power, military commissariats, and workers collectives, assembly points necessary to conduct the draft have been built and are modernly and qualitatively equipped. Basically, the plans for selecting candidates to enter higher and secondary military-educational institutions have already been accomplished, each with high quality.

[Question] Studying the experience of this year, what should one worry about first in conducting the recurrent draft of youth to active military service?

In order to conduct this important state work in an organized manner and without annoying interruptions, military commissariats first must accurately plan the activities of the draft commissions and provide them a uniform work load in accordance with the established work period. Being a collective body, the draft commissions must work always at full strength as is required by the Law of Universal Military Service. It is very important that all draft commissions deeply and thoroughly take into account the level of preparation of every draftee, the state of his health, and other data; and always correctly resolve the question about the direction of youth to one or another arm of service with regard to the needs in the specialties received by the draftees, their individual psychological peculiarities.

Of course one must take all measures so that the draft commissions do not permit violations of the article of the law defining who may be granted deferment for family or other circumstances.

The draft commissions and military commissariats bear a special responsibility for organizing the send-off of youth to the military. Here everything is important. The creation of ceremonial conditions in which the future fighting men are handed over from the collectives where they were working or studying; orders honestly and conscientiously to serve the Motherland and faultlessly to fulfill their honorable duty, their constitutional debt to the Soviet nation; and, care to provide fully the material allowances of the draftees throughout their entire journey to military units.

In units and on ships the young fighting men must create favorable conditions for fruitful training, rapid mastering of machinery, and for overcoming psychological difficulties associated with a sharp change in the way of life to which they are accustomed.

We wish them to become more quickly skillful and dependable defenders of the Motherland, worthy successors of the glorious military traditions of our heroic Armed Forces!

12198
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INATTENTIVENESS TO SCHEDULING CREATES PROBLEMS

Moscow KRASNAYA ZVEZDA in Russian 7 Jan 83 p 1

[Article by KRASNAYA ZVEZDA correspondent Lt Col L. Golovnev: "It Begins with a Schedule"]

[Text] Battalion chief of staff Capt N. Vasil'yev was not able to hold back the irritation after looking through the plans for training in the subunits for the next week.

"Tell me, how much time did you spend drawing up the class schedule?" he asked, turning to mortar battery commander Sr Lt I. Shapygo.

"Two hours," answered the officer.

"That's apparent. The weekly schedule has been drawn up hastily and in an ill-conceived manner. It has to be redone..." Capt Vasil'yev explained what should be done and how to do it. Then he summed up results of the past training month together with the battery commander. They were very alarming. The combat training plan, battery schedules and their practical implementation had substantial discrepancies. Much of what was outlined by the monthly plan had not been accomplished. Why?

Above all because the weekly schedules did not include some classes envisaged by the plan. In addition, because of their ill-conceived nature much time was wasted on movements to and from classes and on the preparation of training stations.

The incident which occurred in this battery indicates that the battalion staff, and particularly Capt Vasil'yev himself, also had not done everything to ensure precision and rhythm in the training process. As chief of staff he lacked the ability to exercise comprehensive supervision over the planning of training. While demanding that subunit commanders allocate time precisely for training subjects, he omitted monitoring to see the effect with which these hours were spent and whether or not a sequence was followed in training. Overlaps occurred as a result. For example, Lt V. Nikolayev, one of the company commanders, decided to accelerate the study of the defense against mass destruction weapons and planned several classes in a row on this subject. Meanwhile a lag showed up in other disciplines. Substantial deficiencies also arose in the battery commanded by Sr Lt Shapygo. Here they began to

practice lessons in conducting fire without having properly taught the personnel terrain orientation, deployment and other techniques, i.e., they violated the methods sequence in training.

There is no need to emphasize the role which the battalion staff plays in planning and organizing training in the subunits. Its functions are not limited at all to making extracts from the combat training plan, making a breakdown of hours and sending them out to the subunits. It is important for staff officers to give concrete assistance to subunit commanders, especially young ones who have insufficient experience both in drawing up schedules and organizing training.

The example of the regimental staff headed by Gds Maj V. Kovrov is instructive in this respect. The chief of staff and other officers hold classes on drawing up schedules with subunit commanders. The following method also is used: They hand out a sample breakdown of hours to the officers and have them draw up schedules. Then each of them together analyzes and chooses the best version. This then is the basis for the class schedule in the subunits.

The training year is gathering pace. It would appear that officers of the battalion in question will learn lessons from the first month of training and will take every step to ensure that the effectiveness and quality of planning classes to be held meet modern demands.

6904
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PROBLEMS IN ARTILLERY OFFICER TRAINING DISCUSSED

Moscow KRASNAYA ZVEZDA in Russian 19 Jan 83 p 2

[Article by Col V. Zababurin, staff officer of Rocket and Artillery Troops of Red Banner Odessa Military District: "On a Certain Deficiency in Artillery Officer Training: Reproached for Initiative"]

[Text] The tactical situation in the fire and fire control drill in the battalion commanded by Maj A. Tseyko became more complicated every minute. Having consolidated on the slopes of a dominant hill, the "enemy" successfully repulsed an attack by advancing motorized riflemen and actively maneuvered forces and fire. Artillery officers had to make the most expedient decision on fire support of the attack.

Battery commander Capt N. Firsov was the first to perform the mission. After estimating the situation he began adjusting fire on the most important target. After the first round burst he determined the deflection in meters and a little while later began fire for effect.

Capt Firsov's decision to perform adjustment based on results of the deflection from the target in meters surprised the officer in charge of firing. Some even reproached Firsov, alleging that he was taking a risk in rejecting customary methods of registration. It would have been better to work with a rangefinder in the given situation.

Just why didn't Capt Firsov use this method? It requires more time, and time was at a premium. The tempo of the motorized riflemen's attack had slowed and the outcome of combat depended largely on the artillerymen's actions. Were they to delay in opening fire the attack on the "enemy" strongpoint might bog down. Capt Firsov proceeded from the concrete tactical situation and also took into account the fact that the target was in the vicinity of reference points, the coordinates of which had been determined in advance. Locations of the shellbursts were easily seen, which allowed determining the firing data correctly and quickly.

One would think that in the critique the officer in charge of firing still would recognize Capt Firsov's initiative, and not only recognize it but recommend that the officers thoroughly study his experience of working under a rigid time limit. This unfortunately did not happen. The battery commander

was reproached: There was no reason to violate the accepted procedure for registration, for in case of a failure the entire battalion would "suffer."

An analysis of command training in the battalion showed that such a cool attitude toward initiative shown by officers is far from a chance happening. The reason for this is the pursuit for outstanding results. The faulty "method" of coaching is used for this, with the officers familiarized in advance with the fire missions and methods for performing them, a favorable tactical situation is created and so on. Should it be any wonder that an officer who shows independence is looked on at times here with reproach?

Unfortunately one often still has occasion to encounter instances in units where officers' creative activeness, particularly in field firings, group exercises and short tactical training problems, runs up against a stone wall of incomprehension. Here is a recent example.

I recently had occasion to attend a command class where Lt Col V. Gretsov was the instructor. Based on the inspector's narrative problem the number of fire missions which required the officers' resolute actions of initiative was increased, but at every step the officers were coddled and restricted in actions with respect to fire and fire control. Battery commander A. Artamonov, for example, did not make a single independent decision during the class, merely repeating the commands of the officer in charge of firing.

Of course the district conducts a very resolute struggle against such oversimplifications and indulgences. In this instance as well Officer Gretsov naturally was given strict instructions as to the deficiencies allowed. Classes were held on this topic again.

One of the important tasks facing Army and Navy personnel in the new training year is to elevate the level of officers' professional expertise. We are speaking of their resolute actions of initiative in field problems, particularly in field fire exercises. It is here under near-combat conditions that a broad expanse opens up for every officer to display initiative and independence. But let's ask ourselves if a commander who has had poor personal special and tactical-weapons training is capable of displaying imagination and initiative in combat. Hardly. Unfortunately this circumstance is not always considered in command training.

Of course the unit commanders above all are at fault for the fact that the combat training process, including command training, does not meet today's demands in places. That means they themselves lack maturity and boldness to abandon a stereotype. But much also depends here on the position of senior commanders, political entities and staffs and on the general atmosphere in the unit. Interests of the matter require creating that kind of situation in field problems and exercises which would prompt a person to creativeness and a search for nonstandard decisions and would spark a commander's thinking.

Instructive experience in training and indoctrinating commanders has been gained in Artillery Regiment "X." It has become the rule here that an artillery officer who has not mastered the techniques and methods of accomplishing fire missions in all kinds of combat cannot be regarded as a trained

specialist or lay claim to a prize place in competition. In field firings and range practices preference is given to the commander who acted resolutely and daringly and sought new and more effective ways of accomplishing the operational training missions. Moreover, in order to preclude indulgences in command classes the officer is placed under conditions where the situation itself prompts him to creativeness and vigorous actions.

In one command class Sr Lt I. Naden was acting as commander of an artillery subunit attached to a motorized rifle battalion. The mission stated that the motorized riflemen were pursuing the "enemy," who was withdrawing to the mountains while fighting. The senior lieutenant received an order to support the attackers by fire.

After performing preliminary calculations the officer quickly prepared for firing, but then the problem director Lt Col V. Molchanov gave a narrative problem: The "enemy" had anticipated the attackers in deploying and had taken the hill where the artillerymen's command-observation post was to have been set up. Naden did not lose his head. He radioed instructions for the weapon platoons to deploy in front of the gorge and for the gun position officer to conduct a topographic tie-in with his own resources. As soon as the coordinates of the firing positions became known the senior lieutenant began to prepare firing data. After the first ranging round he introduced an accurate correction and opened fire for effect on the "enemy."

It is quite possible that this mission could have been accomplished better and simpler than Sr Lt Naden did it, but during the critique of the problem Lt Col Molchanov considered it necessary to take note of the officer's nonstereotyped actions of initiative. He praised both his speed in working out variants of accomplishing the mission and firmness in carrying out his plan. The comprehensive critique of this episode served as an instructive lesson for all officers.

It would appear that the problem director acted correctly, for it has to be taken into account that a young officer was in the role of firer. By making a particular nonstandard decision he also could err in something. Here it is very important to take note of a subordinate's striving for actions of initiative and not overemphasize his mistakes.

Commanders' initiative... It is difficult to overestimate this quality in officers' professional work. During the Great Patriotic War the development of this trait of a commander's character was made one of the items of primary importance, and this task also is important for military cadres today. Ensuring that every activity conducted during combat training, including in the command training system, serves to develop officers' creative attitude toward the job means to raise their professional expertise even more.

6904
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LACK OF PREPARATION CAUSES PROBLEMS IN TACTICAL EXERCISE

Moscow KRASNAYA ZVEZDA in Russian 8 Feb 83 p 1

[Article by Lt Col V. Popov: "Troop Field Training: A Prisoner of Conditionalities"]

[Text] A reinforced motorized rifle company commanded by Capt V. Platonov was swiftly deploying for an attack on the "enemy" strongpoint. It was easily seen how the tanks and infantry fighting vehicles reformed into combat formation precisely and in concert. Concealed by folds of the terrain, the company swiftly enveloped the "enemy" from the flank and opened fire.

It seemed the outcome of combat was predetermined. The motorized riflemen quickly reached the defenders' trenches right behind the tanks and tossed grenades in unison at the surviving weapon emplacements.

Suddenly "enemy" tanks appeared on the company flanks. After quickly estimating the situation Capt Platonov ordered the platoons to repulse the counterattack by fire from in place, but the attackers' ammunition was exhausted.

How could that happen in an exercise for which the tankmen and motorized riflemen had prepared in advance?

A great deal became clear when representatives of higher headquarters took a look at the officers' work maps. It turned out that both Capt Platonov and certain other officers had denoted their decision for combat merely on the forward edge of "enemy" defense. Actions in the depth of the strongpoint were planned only in general terms. Those in the company also did not take into account that the "enemy" had aligned his defense in two echelons. Hence the insufficient precision in distributing efforts by missions, axes, lines and time. After expending all ammunition in the first clash with the "enemy," the company essentially was left defenseless.

As experience shows, only a person who is thoroughly prepared to accomplish the mission is capable of fighting until total destruction of the enemy, and that includes from the standpoint of providing subunits with everything necessary. But this unfortunately is what is forgotten at times, as was the case in Capt Platonov's company.

I once had occasion to observe the following picture. A motorized rifle battalion was still fighting in the depth of "enemy" defense, but the artillerymen supporting it already were encasing their guns. When they were asked why they weren't giving fire support to the motorized riflemen battery commander Sr Lt A. Nepesov responded that the battery had performed its mission.

It turned out that in the operation order the battalion commander assigned precise missions to the artillerymen only for the first phase of the offensive--the attack on the strongpoint on the "enemy" forward edge of defense. No coordination was arranged in performing the subsequent mission. When fighting began in the defensive depth the battalion commander entirely "forgot" about the artillerymen, who in turn also did not show activeness--they believed that the practice combat already had ended for them. Only after the exercise director's intervention did Sr Lt Nepesov advance the battery to a new firing position to repulse a counterattack by "enemy" tanks.

Where do the reasons for such deficiencies lie? It would appear they lie above all in the fact that some commanders and staffs show little concern in conducting various kinds of exercises for seeing that all operational training missions are worked to the full extent. This is a troublesome matter requiring imagination, initiative and the participation of specialists of different services. And so someone takes the path of least resistance, as they say. As a result excessive conditionalities and indulgences are allowed in tactical problems and exercises. How is it at times in practice? Let's say a battalion tactical field fire exercise is under way. The subunits attack the "enemy" swiftly, penetrate his forward edge of defense and push into the depth. A person who has been in exercises before already knows that it still is necessary to repulse an "enemy" counterattack, and that is the end of active operations.

Of course stereotypes in organizing exercises have a negative effect on developing subunit commanders as organizers for combat. Experience persuades us that in such exercises they usually show little concern for organizing reconnaissance, for continuously filling in their available information about the "enemy," and for providing the subunits with everything necessary.

But let's ask ourselves: Is it possible to organize for combat competently without knowing in detail the organization of the opposing side's subunits, their tactics, and the numbers and tactical-technical data of the weapons? Of course not.

Take the matter of combating antitank weapons. It is well known how high their density is now and how deeply they are echeloned. One naturally cannot count on success in combat without having ensured their reliable neutralization, but often a commander is concerned merely with neutralizing antitank weapons on the "enemy's" forward edge of defense and what is in the depth is not taken into account.

Is it possible to avoid such mistakes in officers' actions? Experience shows that it is if we teach subunit commanders to anticipate the nature of combat and accomplish all matters connected with organizing subunit support fully. It is understandable that much depends here on the ability of commanders and staffs to create a difficult, truly instructive situation in exercises and problems. It is not said in vain: An exercise is a school of command maturity.

GROUND FORCES

EQUIPMENT TRAINING FOR OFFICERS IN GSFG EXAMINED

Moscow KRASNAYA ZVEZDA in Russian 16 Mar 83 p 1

[Article by Gds Engr-Lt Col A. Finogin, deputy regimental commander for weapons, GSFG: "With the Competition Initiators: On the Main Axis"]

> [Text] Personnel of the Proskurov-Berlin, Order of Lenin, Red Banner, Order of Kutuzov Guards Tank Regiment imeni G. I. Kotovskiy, which is the initiator of socialist competition in the Ground Forces, are building up efforts day in and day out in the struggle to fulfill their pledges. Great emphasis is being placed on improving the personnel's technical schooling in achieving what is planned in competition. This article tells how things stand in this area.

"Keep entrusted weapons and equipment in excellent condition, keep in constant step with technical progress, improve our specialized training and improve class ratings"--that is what is written in our regiment's socialist pledges. It can be said that fulfillment of this point of our pledges is under special supervision, which is understandable. Expert mastery of modern equipment and weapons is the main line of competition and practice shows that where people work effectively along this line, overall indicators also are higher.

Take the following fact for example. During the winter training period the battalion commanded by Gds Capt M. Belyayev has been emerging the winner in competition from month to month. This subunit's personnel have the highest tactical and weapons schooling.

A person still has occasion to hear at times that the commander is no driver-mechanic or gunner. He needs skills in driving and firing only for the methodologically correct training of subordinates, with the important factor being the ability to control the subunit in combat.

I believe it is impossible to contrast one to the other. The fact is that a tank battalion, for example, with attached and supporting subunits as well, represents not only a tactical unit, but also a very complicated technical unit. There are dozens of different kinds of vehicles and diverse weapons here, and one can control all this capably and use it with maximum effectiveness only by being a good specialist. In our time a technically illiterate commander cannot count on success in combat.

I recall a very recent incident. During a company tactical exercise platoon commander Gds Sr Lt S. Batayev lost control of his subordinates and as a result the platoon strayed from its axis and onto the neighbor's flank. The "enemy" immediately took advantage of the hitch and attacked the company in the flank.

It turned out that the officer was not able to make proper use of means of communication and was not able to cope with the insignificant interference set up on the radio net.

This incident was a serious lesson not only for Gds Sr Lt Batayev, but also for officers on the regimental staff. Additional classes were held with company, platoon and tank crew commanders in which a detailed study was made of the design and operating procedures of radios, causes of possible malfunction, methods of remedying them and techniques of working under conditions of jamming.

Steps were taken to improve the technical training of officers and all personnel. We have the conditions for this. A unique training complex has been set up in the unit which allows practicing all technical training matters. It is true that unfortunately everything is not yet going as one would like, and proper attention is not being given to technical training at all levels. The regimental staff headed by Gds Maj V. Putyrskiy now has reinforced supervision over the quality of the training process and fulfillment of the class schedules.

Demands have been raised on the methodology of holding classes and practices. In particular the situation now stands that every class instructor has to know the fine points of what he plans to teach subordinates. This rule is followed strictly in the subunits.

In taking a look at the work style of battalion and company commanders in improving the personnel's technical training, officers of the regimental staff and party committee members strive to take note of everything new and foremost and immediately adopt it. For example, the regimental party committee generalized the work experience of company commander Gds Sr Lt N. Sergeyev in improving the training of gunners. What was the "secret" of success? Above all the commander's individual approach to training subordinates. Back at the beginning of the year Gds Sr Lt Sergeyev thoroughly studied the individual training of every tank commander and gunner. He checked his conclusions and observations in control problems and then he placed the soldiers who made approximately identical mistakes into groups. Classes in each of the groups began to be held under a special plan by the best trained platoon commanders. Primary attention in the training was given to what a particular soldier was having difficulty in mastering.

The regimental staff and party committee constantly analyze competition results and its influence on the technical training level. In particular many platoon and company officers still lack experience in ensuring competition publicity and using its indoctrinational functions for making the military collective cohesive and mobilizing personnel for the struggle for strong discipline and firm regulation order.

The procedure of holding command training classes also is undergoing certain changes. A course has been set here for strengthening the practical direction of officer training and this approach to matters is producing rather good results. In a recent night tactical field fire exercise a company commanded by Gds Capt V. Afanas'yev was placed in a difficult situation. The "enemy" managed to draw up reserves and made an attempt to deliver a flank attack with superior forces, but Gds Capt Afanas'yev, who had a good knowledge of the equipment's capabilities and the driver-mechanics' schooling, took the company out from under the attack over difficult terrain and then he himself attacked the "enemy" and achieved success. In this practice action the tankmen clearly demonstrated their increased proficiency and ability to make best use of the tactical capabilities of equipment and weapons to perform the assigned mission.

To learn to get the maximum possible out of equipment and use it expertly to achieve success in combat is what is seen by regimental personnel as one of their chief tasks. The guardsmen are attempting to activate all available reserves in the struggle to perfect combat proficiency, but unfortunately we still have something that hinders forward movement. What do I have in mind? Because of interruptions in the supply of spare parts, for example, vehicles of the operational training group sometimes stand idle and as a result training time is not always used rationally. I would like to see higher headquarters show more concern for satisfying the unit's needs. This will help us fulfill pledges and implement the motto "A higher level of mastery for new equipment."

6904
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LOGISTIC SERVICES AND SPECIAL TROOPS

CONFERENCE HELD ON BILLETING, MAINTENANCE SERVICE

PM080817 Moscow KRASNAYA ZVEZDA in Russian 2 Apr 83 First Edition p 2

[Report by Technical Service Lt Col B. Abramov: "Improving Troops' Consumer Services"]

[Text] A conference of leading personnel of organs of the USSR Defense Ministry billeting and maintenance service has been held. It was opened by marshal of engineering troops N. Shestopalov, USSR deputy minister of defense for construction and billeting of troops.

A report on the work results of organs of the billeting and maintenance service in 1982 and the tasks for 1983 in the light of the decisions of the 26th CPSU Congress and the CPSU Central Committee November (1982) Plenum was delivered by Engr-Col Gen A. Fedorov, chief of the USSR Defense Ministry main billeting and maintenance directorate.

A wide range of questions of further improving the work of the billeting and maintenance service and improving the troops' housing and consumer services was examined during the conference.

Participating in the conference's work were Col Gen M. Sobolev, deputy chief of the Soviet Army and Navy Main Political Directorate, Marshal of Engineering Troops S. Aganov, Chief of Engineering Troops; Col Gen V. Bychenko, chief of the Military Construction Units Political Directorate; Col Gen N. Rozhkov, deputy chief of the USSR Armed Forces Rear Services; Col Gen A. Zvartsev, deputy chief of the Main Personnel Directorate; and Engr-Col Gen A. Karaoglanov, chief of the USSR Defense Ministry State Commission of Experts and Inspection.

CSO: 1801/321

PERCEPTIONS, VIEWS, COMMENTS

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Moscow ZARUBEZHNOYE VOYENNOYE OBOZRENIYE in Russian No 1, Jan 83 (signed to press 19 Jan 83) pp 1-2

[Full-text translated articles published in this issue of the report are indicated with an asterisk (*)]

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The articles by Soviet authors and the chronicle are based on materials in the foreign press. This issue contains illustrations from "Jane's" and the following journals: AVIATION WEEK AND SPACE TECHNOLOGY, ARMADA INTERNATIONAL, ARMY, ARMIES AND WEAPONS, WEHRKUNDE, DEFENSE, INTERNATIONAL DEFENSE REVIEW, KAMPFTRUPPEN, TIME, NATO REVIEW, NATO'S 15 NATIONS, PROCEEDINGS, FLIGHT INTERNATIONAL, AIR PICTORIAL, AIR FORCE, U.S. NEWS AND WORLD REPORT, as well as the newspaper ARMY TIMES.

3024
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PERCEPTIONS, VIEWS, COMMENTS

COMMENTARY ON U.S. MILITARY POLICY IN EUROPE

Moscow ZARUBEZHNOYE VOYENNOYE OBOZRENIYE in Russian No 1, Jan 83 (signed to press 19 Jan 83) pp 7-10

[Article, published under the heading "General Military Problems," by Engr-Col I. Belov: "U.S. Adventurism and the European NATO Countries"]

[Text] Aggressive forces of imperialism, particularly U.S. imperialism, are seeking to push international relations off the road of détente onto the road of confrontation, a dangerous balancing act on the brink of another war, are attempting to redraw the political map of the world, and are resorting to direct threats of employment of force, including nuclear weapons. A particular danger is presented by a decision, adopted under U.S. pressure, to "additionally arm" NATO with new U.S. intermediate-range missiles and to deploy them in Western Europe, deployment which is scheduled to begin in 1983. The development of this bloc and its military schemes as well as its practical activities are assuming an increasingly more dangerous character. The U.S. Administration views NATO as the principal instrument of aggression against the socialist nations and peace-loving peoples, as a mechanism for imposing its will on its Western European partners, a will which is alien to their national interests. Thanks to the efforts of the new "crusaders" in Washington, the situation created in the world is more serious than at any time since World War II. This fact is today also being increasingly more clearly understood in the NATO European member nations.

The foreign-policy adventurism of the present U.S. Administration, irresponsible and patently provocational expatiations by President Reagan and his aides pertaining to extensive preparations for employment of nuclear weapons as a means of achieving victory in war against the socialist countries, gambling on the first use of nuclear weapons by the Pentagon militarists, and their endeavor to limit nuclear war to the European continent and to turn their NATO allies into nuclear hostages and Europe into a pile of nuclear ashes are evoking fear and distrust among the European NATO countries toward the present U.S. course of policy in international relations. This discontent is intensified to an even greater degree by an unprecedented growth of militarism and the arms race in the United States, by constant, sometimes insulting importunities by the present U.S. Administration in its attempts to force its allies substantially to increase their military expenditures, which heavily burden the economies of these countries, and by Washington's endeavor to settle unilaterally, without

consultation, common issues which affect all members of the bloc. Disagreements between the United States and its European partners are also noted in views pertaining to the socialist countries, in assessment of events in the Near and Middle East, in Central America, as well as on certain other problems.

The U.S. policy of crude dictate in trade and economic relations evoked an outburst of indignation and irritation in Western Europe, especially Reagan's decision to impose an embargo on deliveries of equipment for the Soviet natural gas pipeline by branches of U.S. companies in Western European countries. This decision was viewed in Western Europe as illegal and gross interference in the internal affairs of sovereign nations. Ruling circles in the European NATO countries also condemn protectionist measures by the U.S Government toward steel and agricultural products exported from Western Europe and its disinclination to reduce interest rates on bank loans.

The complexity of the situation in NATO is presently characterized by distrust not only between the United States and its European partners but also among the latter. There are extremely acute conflicts between Greece and Turkey pertaining to the problems of Cyprus and the Aegean Sea, between Great Britain and Spain, which is demanding the return of Gibraltar, as well as with Denmark and Iceland, with which Britain is waging a "cod war" (a dispute over fishing zones). Tense relations continue within the framework of "Common Market" between Great Britain and the other members of this exclusive economic group.

The Western press teams with reports of a serious worsening of the situation in NATO, reports which predict in deliberately threatening tones the danger of deepening of conflicts to the future of this bloc. We should note at the outset that such excessive dramatization of the situation apparently pursues the aim first and foremost of directing the attention of imperialist circles to the necessity of uniting the member nations and strengthening the bloc -- an offspring of the "cold war."

Nevertheless the adventuristic course of policy pursued by the present U.S. Administration and its high-handed treatment of its partners are being condemned today not only by the general public but also by politicians and even officials in the European NATO countries.

W. Brandt, chairman of Germany's Social Democratic Party, noted in a conversation with French President F. Mitterrand, expressing his displeasure with the policies of the Reagan Administration: "The United States is treating Western Europe like a colony." Former SDP Deputy Chairman (Bar) stated on television: "Washington uses NATO to govern Western Europe as its protectorate." He called U.S. development of neutron weapons "a distortion of human thought process." Future FRG Chancellor H. Schmidt frankly admitted that "the line between Bonn and Washington has been deenergized." Schmidt replied to the question of whether he saw any danger of a trade war between the United States and Western Europe: "Yes, I would say so." He called subordinating exchange of goods and services to political conditions, meaning the Reagan embargo on delivery of goods for the Soviet natural gas pipeline, "ill-considered." Under pressure by the European NATO member nations, in November 1982 the U.S. Government was forced to rescind this embargo.

French Minister of External Relations Cheysson characterized relations between the United States and the Western European countries as "progressive estrangement," noting that "the gap between the Americans and the Europeans is growing; they now speak different languages." Cheysson emphasized: "Judging by all indications, the Americans are totally indifferent toward our (that is, Western European -- I.B.) problems." French Minister of State for Foreign Trade Jobert stated: "The United States wants to be the undisputed master within the NATO alliance and refuses its partners the right to be genuine economic partners. If there exist within the alliance only relations of voluntary subordination, it will die of its own weakness."

Italian Minister of Foreign Affairs Colombo stated that there was irritation, concern and perplexity within the EEC in regard to U.S. economic policy. The EEC Council of Ministers (almost all European NATO countries are members) sent an official protest to the White House, a protest worded, as was noted in the foreign press, in no uncertain terms, which emphasized the unacceptability of attempts to extend the jurisdiction of U.S. laws to foreign countries.

Danish Minister of Foreign Affairs Ellemann-Jensen, who is presently chairman of the EEC Council of Ministers, stated: "The approach of the California hawks toward relations between East and West is excessively clumsy.... The Americans have chosen the path of sanctions which do detriment primarily to our (that is, Western European -- I.B.) interests."

The West German newspaper FRANKFURTER RUNDSCHAU stated that fear in Western Europe over the policies of the "glib Reagan Government is becoming increasingly ubiquitous." The newspaper HANDELSBLADET noted that "the United States is presently in a state of unprecedented isolation in the world. Relations with its European allies are tense."

Sharp criticism of the irresponsible actions by the White House is also being heard in the United States. This criticism confirms the aggravation of conflicts between the United States and its European NATO partners. Prominent U.S. politician Senator Kennedy has called the aggressive militarist policy of the Reagan Administration a policy of "nuclear adventurism." Former U.S. defense secretary Schlesinger has stated: "Our allies are unquestionably alarmed because a crisis of confidence has arisen in NATO -- a loss of faith in their protector.... This is the principal issue which is causing disagreement and tension within NATO." Another former U.S. defense secretary, McNamara, stressed in a statement that "deployment of forces connected with guidelines calling for first use of nuclear weapons, including the neutron bomb, is evoking an increasing volume of political debate in Western Europe as well as between Western Europe and the United States." Former U.S. assistant secretary of state Ball stated that "the Europeans no longer trust the Americans' judgments, and they are alarmed by the torrent of harsh statements made in a dictatorial tone by the Reagan Administration." Former U.S. secretary of state Kissinger has stated that it is difficult today to find in the world any potential crisis area where the United States and its Western European allies would not act in opposition to one another and that, if an end is not put to this lack of unity, it could lead "to the disintegration of NATO."

The U.S. newspaper WASHINGTON POST stated: "Complications have arisen in the NATO alliance which this time are of a more serious character, for a number of reasons, for the United States and Western Europe are not only allies but principal rivals as well." The newspaper notes that the serious differences have now extended to a much broader range of mutual relations than usual, including nuclear strategy, political and economic relations between East and West, the Near East and Central America, as well as principal economic problems. The embargo placed by Reagan on delivery of equipment for the Soviet natural gas pipeline "enraged our allies."

The editor of the U.S. journal FOREIGN POLICY, (Meyns), who recently visited the FRG, claims in an article in the newspaper NEW YORK TIMES: "Talk about using nuclear weapons for fighting a limited nuclear war is practically causing mass neurosis in West Germany."

"No matter how disunited Europe may appear to be at times," states the West German newspaper GENERALANZEIGER, "it is no longer allowing itself to be treated as a satellite." An EEC official stated in July 1982 that "the United States and the EEC are presently closer to a global trade conflict than at any time since World War II."

The British newspaper TIMES also endeavors to portray the future of relations between the United States and its Western European partners: "Attempts by the United States to dictate its will on the new Europe which is coming into being will probably produce the opposite result -- causing resistance rather than accommodation and indignation rather than friendship."

As is apparent, the present situation in NATO is far from tranquil. An atmosphere of alarm, fear, and irritation is presently reigning in the European NATO countries. Politicians, scientists, and the general public in these countries reject the dangerous policy being pursued by the present U.S. Administration, which is pushing mankind, and particularly the peoples of Europe, to the brink of nuclear catastrophe, and are demanding an end to militarist preparations, curbing of the arms race, banning of nuclear weapons, and strengthening of world peace. The fanatical militarism of Reagan's military-political course of policy has led to an unprecedented upsurge of the antiwar movement in the NATO countries, including the United States, on all continents. Massive peace marches have been held throughout the world, during which all men of good will angrily condemn the insanity of the U.S. and NATO nuclear maniacs.

The adventurism and national selfishness of the U.S Government, as we see, have evoked resentment not only on the part of the general public but also the ruling circles of the European NATO countries, and have led to complication of their relations with the Reagan Administration. Criticism directed by them against Washington, however, is most frequently limited within the framework of trade-economic and general political problems, as well as demands to broaden the mechanism of consultations between allies. In determining major military-political issues, however, they allow themselves to be led entirely by the Washington "crusaders," support all militant anticommunist and antisocialist declarations, and take the most active part in all NATO militarist preparations.

The essence of their military-political course of policy, as reported in the Western press, was apparently expressed most accurately by a highly-placed spokesman of one of the NATO countries who, replying to a question asked by journalists as to whether sharp criticism of the United States in the NATO countries was compatible with continued membership in this alliance, stated: "There are important issues on which we are in agreement with the United States. If the situation became catastrophic, we are in the U.S. camp; we are bound by a single rope." Therefore differences are one thing, while the anti-communism of the NATO members is evidently the most important factor. The NATO bloc has been and continues to be an exclusive military-political grouping of the most reactionary and aggressive imperialist forces, headed by the U.S. militarists.

All this obliges Soviet servicemen to strengthen unity with the servicemen of the nations of the socialist community, to keep a vigilant eye on the intrigues of the NATO adventurists, and to work tirelessly to increase their vigilance and combat readiness.

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PERCEPTIONS, VIEWS, COMMENTS

'MECHANISMS' OF PSYCHOLOGICAL WARFARE VIEWED

Moscow ZARUBEZHNOYE VOYENNOYE OBOZRENIYE in Russian No 1, Jan 83 (signed to press 19 Jan 83) pp 10-15

[Article, published under the heading "General Military Problems," by Doctor of Philosophical Sciences and Professor Lt Gen D. Volkogonov: "Mechanism of 'Psychological Warfare' of Imperialism"; passages rendered in all capital letters printed in boldface in source]

[Text] The struggle between two lines of policy in world politics is continuing to intensify. One line, pursued by the socialist countries, follows the concrete goal of preserving détente, reducing the immediate threat of war and, in the future, diminishing its probability to the maximum possible extent. Numerous Soviet initiatives in this regard are well known to the entire world.

The other line, pursued by the United States and NATO, expresses an endeavor on the part of militarist circles to push genuine socialism down from its position of preeminent world influence and to gain one-sided military advantages which will enable imperialism to determine the fate of the world. U.S. ruling circles have launched an extensive political, ideological, and economic offensive against socialism. For the West the ideological struggle, it was stressed at the 26th CPSU Congress, "does not boil down to a contest of ideas. It is employing an entire system of means calculated to undermine and soften up the socialist world." Military preparations are accompanied by no-holds-barred imperialist "psychological warfare," which is nothing other than aggression against the human intellect and feelings, an entire system of subversive actions in the domain of public and individual consciousness.

Subversive actions in the intellectual domain are being carried out with the aid of the gnoseologic mechanism of "psychological warfare" (that is, the mechanism of cognition, in this case false cognition), which includes manipulation of consciousness, disinformation, and the implantation of bourgeois stereotypes by suggestion. Essentially "psychological warfare" is being waged not only against socialism and the national liberation movement but also against the peoples of bourgeois countries. In the latter instance it is transformed into propaganda brainwashing of the population, which is also accomplished with the aid of manipulation, disinformation, and suggestion. Thus the gnoseologic mechanism of deformation of the truth is in fact one and the same thing, regardless of whom lies and slander are directed against -- the

population of bourgeois countries or the peoples of socialist and developing nations.

INTELLECTUAL COERCION IN THE FORM OF MANIPULATION OF CONSCIOUSNESS. Official Washington, having launched a genuine "psychological war" against socialism, formal commencement of which dates from Reagan's speech before the British Parliament in the summer of 1982 (in actuality imperialism had been continuously waging such warfare), is willing to use any means to achieve its aims. An important place among the devices it uses is occupied by manipulation of consciousness, which has long been practiced in bourgeois countries, and now the "psychological warfare" professionals would like to utilize it in other countries as well. Just what is this method?

The entire point is that the psychological mechanism of intellectual coercion of an individual, group, or society is connected with the endeavor to distort the presentation of news information in such a manner that, in spite of the fact that it is contrary to the truth, the individual would accept it as self-evident and would act in conformity with this deformed information. "Psychological warfare" experts believe that this can be achieved to a considerable degree with the aid of manipulation of consciousness -- unique control of people's intellectual/spiritual state by suggesting appropriate stereotypes of thinking which are advantageous to the ruling class. Employing manipulation, bourgeois ideologists attempt to change people's attitudes in the required direction. They specify three levels of influence.

The first level includes intensifying desirable attitudes, ideals, values and standards which already exist in people's consciousness and consolidating them in people's ideological outlook and experiential posture. Particularly important for bourgeois psychologists are the carryovers and moral anomalies existing in certain Soviet citizens.

The second level involves particular, minor changes in views on a given event, process, or fact, by means of which influence is exerted on one's political position and emotional attitude toward a concrete phenomenon.

The third level involves radical, cardinal transformation of experiential attitudes on the basis of communication of dramatic, unusual, new information.

Western "psychological warfare" experts believe that with the aid of manipulation it is possible to change experiential attitudes at the first two levels of influence. Cardinal transformation of the views of an individual, a group, and society requires, in their opinion, combined influences on one's consciousness over an extended period of time, although they are based on those same methods of manipulation. In one of his books, Professor R. (Gudin) of Yale University examines manipulation as an instrument of intellectual power over others. He writes that this phenomenon is essentially "well-organized deception of people."

In September 1981 President Reagan signed a directive ordering implementation of a "psychological warfare" program cynically called "Project Truth," the purpose of which is to "intensify control of dissemination of information to the people in the Communist bloc." Behind this flowery phrase is an endeavor on the part of those who are in power in Washington to step up disinformation of

the masses and to restrict the flow of truth into people's consciousness, which in their opinion will create favorable preconditions for manipulation.

The U.S. journal POLITICAL AFFAIRS carried an article by T. Cannon entitled "Rebirth of McCarthyism in Washington." The author writes of White House officials who, aware that "the better informed people are, the more difficult it will be to manipulate their minds," provide people with surrogate information: truncated, clipped-off, and distorted. To achieve this it was necessary for the authorities, the author acknowledges, to organize a campaign to repeal the Freedom of Information Act. As Cannon correctly concludes, an absence of truth creates the possibility of manipulating consciousness. In the capitalist society this is an integral attribute of the way of life and control of the people's thoughts and actions, one of the most important instruments of bourgeois rule.

The organizers of "psychological warfare" cynically view manipulation as a means to produce a unique social reflex, that is, specific behavior evoked by appropriate ideological and psychological motives. They believe that such words, images, and stereotypes as "communism," "the hand of Moscow," and "Soviet propaganda," for example, should evoke corresponding behavior, actions, and reaction. Since the population of the capitalist countries knows appallingly little about the truth concerning the life of Soviet citizens and, on the other hand, receives every day vast amounts of disinformation, the purpose of which is to convince them to believe in the "aggressiveness," "antidemocratic nature," "inhumanity," and "bureaucracy"of the socialist system, mere mention of a stereotype in an individual's consciousness gives rise to customary images of the demonic, the negative, and the unattractive, thus a person involuntarily believes in the myths and clichés of bourgeois propaganda. Constant use of appropriate terms, images, and stereotypes, writes R. (Gudin), "compels people to rely on the official interpretation of events, even if they feel that they are being duped." This happens because they cannot obtain any truthful information, nothing but the official, lying, imperialist propaganda. People's consciousness, opinion, and orientation are manipulated in this manner in the bourgeois society.

One can cite the following example from history. As indignation in the United States increased over expansion of the scale of military intervention in the affairs of Vietnam, the Johnson Administration fabricated a phony story that the North Vietnamese had attacked U.S. warships in the Gulf of Tonkin. On the basis of this pretext, Congress passed the notorious and shameful "Tonkin Resolution," which gave Pentagon officials a free hand, while the ordinary citizen was forced to believe aggressiveness on the part of North Vietnam. This lie, fabricated by the CIA and passed through sluices of "psychological warfare," had the aim of ensuring support for Washington's aggressive course of policy and of whitewashing its policy in the eyes of world public opinion.

Manipulation as an important element of the mechanism of "psychological warfare" contains a number of components: feeding of "necessary," often fabricated information and deliberate concealment of the truth; producing an information "overload" (in the channel of official views), which hinders the ordinary citizen from understanding what is really going on. If a deception is revealed

(as was the case with the "Tonkin Resolution"), certain time has already passed, the acuteness of the moment has diminished, and certain irreversible political processes have taken place during that period, processes which are now perceived as natural, forced, and essential.

Today Washington is manipulating in the same manner the notorious myth of a "Soviet military threat," with the aid of which a sophisticated, cleverly conceived game is being played with the feelings of the man in the street, who is not ready or willing to acknowledge the thesis of equal security for the nations of the two systems. The bugbear of this threat, which blares incessantly from the TV and movie screen, from the pages of newspapers and magazines, and is mentioned daily in radio broadcasts, is having its effects: the intimidated ordinary citizen frequently supports new militaristic steps undertaken by the Pentagon. Enmeshed in manipulation, many disinformed people essentially blindly support the aggressive policy of the hawks.

DISINFORMATION AS THE PRINCIPAL METHOD OF 'PSYCHOLOGICAL WARFARE'. The policy of manipulation is closely linked with systematic disinformation of the public. This is nothing other than the dissemination of reports aimed at deliberately deluding people, at imposing on people a distorted and outright false idea about realities. Disinformation is fed with the aid of sensational reporting, stereotypes, images, news, etc.

In order to maintain continuous interest in certain information both at home and abroad, "psychological warfare" experts "cast" into the "ideological bazaar" of imperialism sensational news reports which evoke general interest due to the unusual nature of a fact, phenomenon, or process. Most frequently these sensational news events are "organized." If they pertain to the socialist world, they are always of a negative character: testing of a new "barbarous weapon" by the "Soviets," the arrest of "Soviet spies," the "appearance" of a Soviet nuclear submarine off U.S. shores, detection of unidentified flying objects presumably of "Soviet origin," etc.

When a pretext was needed to thwart ratification of the SALT II Treaty, the U.S. Central Intelligence Agency supplied the wire services with the following sensational report: "Soviet regular troops have appeared in Cuba! America is threatened with invasion!" The surprise caused by this phony piece of news, photographs taken by satellites, and "eyewitness" testimony totally confused the man in the street, who was already frightened by the mythical "Soviet threat." The official explanation given by Soviet and Cuban authorities that a small training unit, which was training Cuban military personnel with the aid of specialists from the USSR, had been stationed in Cuba for more than 20 years, naturally failed to be "noticed." Thus this false information became one of the pretexts for the Americans failing to ratify the SALT II Treaty.

Sensations are created according to the following principle: "If dog bites man it is not news, but if man bites dog, it is news." And it is particularly important news if one can portray the "biting dog" in a service cap with a red star. The main recipe of "psychological warfare" sensations includes an unusual content and extraordinary nature of events, mixed with anticommunism.

The American man in the street thinks in stereotypes which have been forced upon him practically from the cradle. The theorists at the "psychological warfare" centers would also like Soviet civilians and Soviet military personnel to think in stereotypes. Aware of the stable nature and conservatism of stereotype thinking, various "radio voices" and bourgeois intelligence services importunately attempt to introduce into the socialist public consciousness such concepts as "Western freedom," "Western democracy," "political pluralism," "human rights," and others. Toward this end they widely publicize a consumer showcase of the capitalist world, naturally remaining silent about unfavorable features of the Western, bourgeois way of life: unemployment, crime, drug addiction, racism, nationalism, the actual lack of rights by the poor, etc. The Madison-Avenue presentation of the bourgeois way of life is typical stereotyping of information, with the aid of which the gentlemen at USIA (agency for political propaganda abroad) and the CIA seek to manipulate the consciousness of Soviet citizens as well.

In a book entitled "Information as a Weapon," progressive West German journalists E. Karlebach and F. Noll demonstrate with numerous examples and syntheses how in the West, and in the FRG in particular, the ruling class manipulates the consciousness of millions of people, creating clichéd ideals of the "free world" and stereotyped anticommunist concepts. When Western tourists, they write, upon visitng the Soviet Union, bring home good, favorable impressions about that country, its people and way of life, the Springer press immediately attacks them on the pages of the magazines STERN and SPIEGEL: "This is simply ridiculous; they fail to understand Soviet realities." In their opinion the only person who "understands" is he who is willing to defame socialism, to slander a nation which has done and is doing so much to preserve world peace.

Manipulation of people's consciousness in the process of "psychological warfare" is accomplished not only on "local material," which is prepared by every propaganda agency, but also on the basis of centralized information processed at the bourgeois world's giant "news factories." The largest of these are the wire services: the Associated Press (AP), United Press International (UPI), Reuter, France-Presse (AFP), plus several others, which are the sources of the lion's share of information disseminated in the world and are frequently utilized in the conduct of "psychological warfare."

The U.S. wire services AP and UPI particularly intensively furnish disinformation to anti-Soviet propaganda agencies. The people at AP often repeat a saying ascribed to Mark Twain: "There exist only two sources capable of bringing light to every corner of the earth -- the sun in heaven and the Associated Press on earth." Indeed, according to UNESCO figures, more than a billion people "consume" AP information each day. While noting the truly enormous volume of information disseminated by AP, however, we must state that it frequently is distorted, as a rule passed through the lens of anti-Sovietism. Essentially AP, together with other U.S. wire services and "Voice of America," plays the role of an antisocialist generator of bourgeois news dissemination. It is they which predetermine its political thrust, character and content.

Wire service reports are classified very "uniquely" by degree of importance: the fact of an antisocialist attack by counterrevolutionaries in the Polish People's Republic is an "important event," while the struggle by the people of the Republic of South Africa against apartheid is merely a "process." A U.S. space shuttle mission is a "very important event," while Israeli brigandage in Lebanon is an "ordinary process." Such news dissemination, with a precise dose of truth added, is aimed at focusing the attention of readers, viewers, and listeners on important (for the owners of the wire services) events and virtually to pass "unfavorable" events unnoticed.

Essentially one of the principles of such "information" corresponds to a motto which Bismarck once stated, that a politician should "have the ability to lie with the aid of truth." Everything which can be forced into the Procrustean bed of class interests is distorted, deliberately misconstrued, and deformed. One must agree with a statement by well-known NEW YORK TIMES staff writer B. Atkinson, who made the following comment about truthfulness of information: "The stock market quotations and schedule of ship movements are the only things which are true in a newspaper." Distortion of information has become the basis of manipulation of the consciousness of the bourgeois society. Distortion has a single thrust vector: to bring news reports and objective facts into "conformity" with the class interests of the bourgeoisie and the political line of the ruling classes. This has become a standard in the societal affairs of the capitalist nations. Former FRG Chancellor Helmut Schmidt, addressing the Bundestag, stated: "Journalists, thank God, can write what they consider to be correct, even if it is not. May it continue to be so in the future." That which makes no sense to distort is provided in a stream of intellectual pulp, glass trinkets of culture, amusing trivia, which also perform a social role in disinformation: they are transformed into an instrument "to deceive and fool the toiler masses" (V. I. Lenin, "Poln. Sobr. Soch." [Complete Works], Vol 42, page 329).

We should state that disinformation is not simply "current" and done spontaneously, but is frequently prepared long before it is made public. In August 1982 the London journal MIDDLE EAST stated that one year prior to the Israeli aggression against Lebanon the Israeli Government information service prepared different versions of statements for the press (news releases, briefing papers, political reports), presenting Tel Aviv's version of the reasons for the invasion. Long before Israeli soldiers crossed the Lebanese border on U.S. tanks, sets of "justifying documents," prepared in many of the world's languages, stood ready at Israeli embassies. Israel's brazen aggression received not only logistic and political support but also ideological and news dissemination support. This consisted essentially in attempts to place responsibility for the conflict on the PLO and progressive forces in the Arab world. This fact once again confirms an old truth: truth is the first victim and the first target of attack in any unjust war.

Thus disinformation and distortion of the truth is the principal content of the mechanism of "psychological warfare" of imperialism both for external "use" and for manipulating the consciousness of the masses within a capitalist country. Sifting through, selecting, fabricating, truncating, and distorting objective information, bourgeois propaganda and "psychological warfare" experts present a

distorted picture of social reality. The individual, social groups, and the masses utilizing such information voluntarily or not look at the world through the eyes of the bourgeois, and like it or not follow their policy and are deceived. This is the situation in the capitalist society. The forces of imperialism would also like to make this the situation in the socialist world with the aid of the ideological struggle and "psychological warfare."

TECHNIQUES OF SUGGESTING ANTITRUTH. The "psychological warfare" professionals must bear in mind that the effectiveness of their actions depends to a decisive degree on the extent to which they can make antitruth into people's convictions. And this in turn is determined by the possibilities and capabilities of bourgeois centers to introduce false stereotypes of thinking into people's consciousness. Knowing that the moral and ideological level of the Soviet citizen is high, Western propagandists seek "roundabout" paths to his consciousness. To achieve this they dress lies in the toga of truth , replace arguments with pseudbarguments, and attempt to present people's genuine aspirations as illusory and to place personal interests against the interests of society, working primarily on human psychology. Bourgeois theorist (Zh. Ellyul') formulated the essence of this problem quite concisely and frankly: "The task of psychology is to catch man in the net of propaganda." This statement essentially expresses to a significant degree the gnoseologic substance of the "psychological warfare" of imperialism, which relies extensively on the method of suggestion.

The effectiveness of suggestion is increased, it is stressed in the USIA manual, if an "authoritative" source of information is named and if the target can be aroused emotionally in advance. One is more receptive to suggestion if information contains elements which affect one's personal interests. In addition, that information which is presented in the context of the new is more fully assimilated. Bourgeois theorist (P. Laynbardzer) writes that with the aid of suggestion and other psychological influence, "passions can be transformed into indignation, personal resourcefulness into mass cowardice, friction into distrust, and prejudices into rage."

The above-mentioned USIA manual recommends that organizers of specific psychological operations make frequent reference to the competence and authoritativeness of the sources, to their "lack of prejudice and objectivity." Following these formulas, the persons who carry out subversive psychological operations frequently make reference in their oral, printed and visual reports to the opinions of diplomats, generals, scientists and other experts, carefully preparing and sifting through their statements. For example, when the Soviet research vessel "Musson" arrived at the port of Hamburg, the Springer BILDZEITUNG published fantasies made up by some "expert" in electronics, who stated that this Soviet ship with the tall antennas was an espionage vessel. This phony report was picked up by other newspapers, which proceeded to claim that the "Musson" had docked at Hamburg allegedly for the purpose of eavesdropping on a conference of the NATO nuclear planning group. It was completely irrelevant that the vessel steamed out of port several days before the conference convened. Suggesting to the man in the street a negative attitude toward the very fact of the vessel's arrival, bourgeois propaganda, operating according to the domino principle, proceeded to add to the initial premise additional "dominoes" of disinformation and slander.

As a result of such actions, specific stereotypes are formed, about the "aggressiveness of Moscow," "totalitarianism," "Communist intervention," "Soviet penetration," "democracy of the West," "free society," and a great many others, which are intensively thrust upon millions of people. One specific feature of these stereotypes is expressed in their great dependence on an individual's emotional state, in a superficial reflection of reality, in a standard attitude toward facts, in relative stability, and in the predominance of imposed notions over knowledge. It is therefore not surprising that many listeners, viewers, and readers in the capitalist world, indoctrinated in a spirit of stereotyped thinking, uncritically take in a portion of political information and believe it to a substantial degree. And if this trust is lacking, the citizen, which frequently happens, endeavors to escape (that is, he is led away!) into the world of amusement. A person in New York, London, or Bonn, when buying a newspaper, directs his attention primarily to the huge headlines: about the marriage of a daughter of a multimillionaire, dog racing results, the extravagance of oil sheikhs, a scandal in Hollywood, the robbery of the century, and the predictions of soothsayers. Such drugs for the mind dull the comprehension of political realities and make a person indifferent and pliant toward perception of antitruth.

Bourgeois propaganda is a vast system of stereotypes which endeavor to enter through various channels into the consciousness of people both in the capitalist and socialist society. The content of Voice of America broadcasts or, let us say, West German periodicals such as the BILDZEITUNG and STERN, are filled with stereotypes and clichés. Any new peace initiative is "Moscow propaganda," Israeli aggression against Lebanon is "self-defense against terrorists," growth of the movement to prevent nuclear war is "Kremlin intrigues," efforts by the Polish United Workers' Party to normalize the situation in Poland are a "return to totalitarian forms of government," etc. Readers, viewers, and listeners in the Western world are so accustomed to such a psychological massaging of the consciousness that they even feel a need for it, for a lie which is repeated again and again sometimes may look like the truth. "Psychological warfare" experts consider this specific feature of human perception in preparing their subversive intellectual actions against the socialist world.

* * *

We have touched upon only the gnoseologic aspect and mechanism of "psychological warfare." It is important to bear in mind that this war against socialism is being conducted by persons and agencies possessing enormous experience in social demagoguery, disinformation and slander. It is also obvious, however, that the most reliable spiritual bastion against all acts of ideological sabotage and "psychological warfare" operations of imperialism is the ideological conviction and Communist philosophical outlook of Soviet citizens and USSR Armed Forces personnel. In this light the decisions of the 26th CPSU Congress in the area of ideological indoctrination work constitute an extensive program of political conditioning of the masses and aggressive opposition to bourgeois influence.

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PERCEPTIONS, VIEWS, COMMENTS

COMMENTARY ON NATO COUNTRIES CIVIL DEFENSE ORGANIZATIONS

Moscow ZARUBEZHNOYE VOYENNOYE OBOZRENIYE in Russian No 1, Jan 83 (signed to press 19 Jan 83) pp 25-28

[Article, published under the heading "General Military Problems," by Lt Col V. Goncharov: "Civil Defense Management Agencies of the Principal NATO Countries"]

[Text] According to numerous reports in the foreign press, NATO military and political leaders view the civil defense system and measures to organize and improve it as a component part of overall preparations by the NATO member nations for war with employment both of nuclear missile and conventional weapons.

As is stressed by Western propaganda agencies, establishment, training and preparation of personnel and facilities required for "ensuring protection and survival of the civilian population," neutralization of the consequences of employment of mass destruction weapons as well as various natural disasters and serious industrial accidents are considered to be the principal tasks of civil defense in the NATO countries.

There is no uniform civil defense system within the bloc. There is only an agency which coordinates the activities of the corresponding national agencies in this area, studies civil defense issues which are of common interest to all NATO countries, and drafts requisite recommendations on organizing protection of the civilian population. This is the civil defense committee,* which is a component of the principal NATO committee for drawing up emergency civil defense plans.

The organizational structure of civil defense of the majority of NATO countries is identical. As a rule, overall direction of civil defense activities is handled by the internal affairs ministries through civil defense administrations set up under their auspices. The United States is an exception, where civil defense agencies are under the president, as are Canada, where they are under the federal government, Portugal -- where they are under the Ministry of Defense, Norway -- where they are under the Ministry of Justice and the police, and Iceland -- where they are under the Ministry of Justice.

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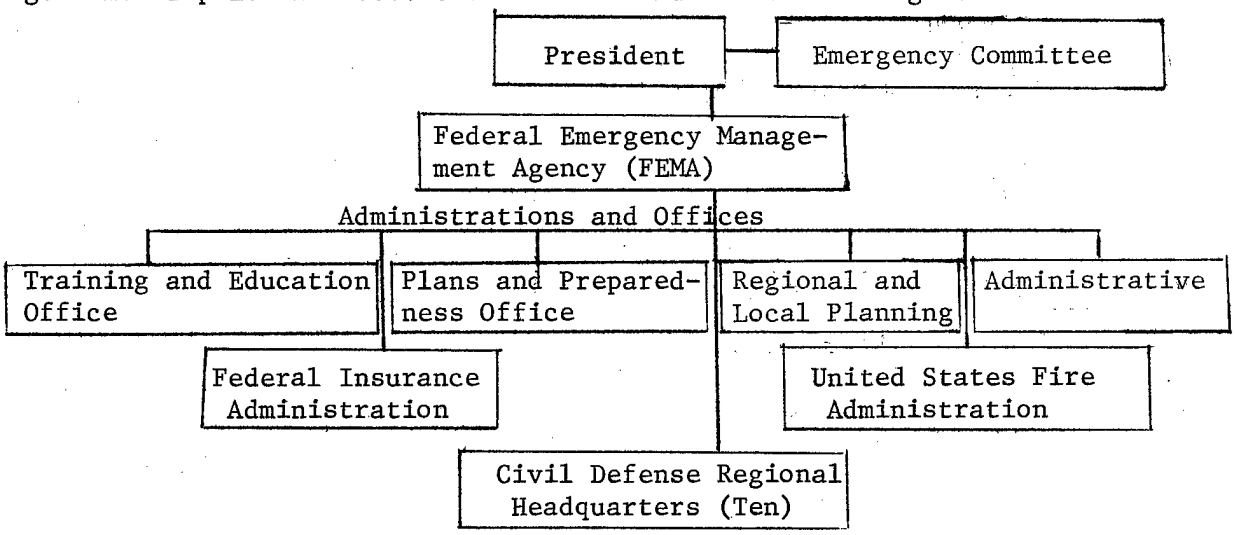
* For more detail on this committee, see ZARUBEZHNOYE VOYENNOYE OBOZRENIYE, No 8, 1981, pp 23-25 -- Ed.

Figure 1. Top-Echelon U.S. Civil Defense Administration Agencies



Organization of civil defense administration systems calls for dividing countries into civil defense regions, subregions, zones, and districts. (For example, the following countries have 10 region: the United States (each containing from 4 to 8 states), Canada (corresponding to the number of provinces), and the FRG (corresponding to the number of Laender). In France there are six zones (corresponding to military districts). The United Kingdom is divided into 10 civil defense regions, 17 subregions, 3 zones, and 8 districts. There is a civil defense headquarters in each of them, as well as in administrative-territorial units -- states, provinces, counties, cities, communities, etc.

Organization of administration of civil defense agencies is examined in greater detail in the foreign press in the examples of the United States, the FRG, France, and Great Britain.

The system of civil defense administration in the UNITED STATES consists of the following: the Federal Emergency Management Agency (FEMA), civil defense region headquarters, civil defense headquarters in the states and localities (counties, cities and large towns). FEMA is a coordination and consultatitve agency which directs the activities of the federal departments and agencies, state and local governments in the area of planning and practical execution of measures directed toward ensuring survival of the civilian population and the country's economy in conditions of a general nuclear war or in recovering from natural disasters.

At the top of this agency stands the FEMA director, who exercises overall direction of civil defense through his deputy director and executive assistant. He serves simultaneously as chairman of the emergency committee -- the president's consultative body on matters of elaborating the basic principles of organizational development of U.S. civil defense, increasing its effectiveness, as well as reducing its development costs.

According to its organizational structure, FEMA (a total staff of approximately 2,500) consists of six offices and administrations (Figure 1).

The United States is divided into 10 civil defense regions. A headquarters has been established in each of these (each with a staff of 40-60), each of which contains 8 departments: mitigation and research, plans and preparedness, disaster response and recovery, coordination, training and education, support, administrative, finance and auditing.

The regional director and his staff coordinate and direct activities in the states contained within the region in the areas of planning and implementing specific measures in the area of civil defense. The state of civil defense within a region is evaluated, deficiencies are determined, and measures to correct them are specified on the basis of report documents submitted by lower-level agencies. The regional director periodically verifies the readiness of the civil defense regional headquarters command post, established during peacetime, and subordinate headquarters. Under his supervision the state civil defense directors draw up plans of concrete measures to mitigate losses and damage to the public and industry.

State civil defense agencies carry out measures specified by higher-level agencies and headquarters pertaining to preparing the civilian population for war and natural disasters, gather data for the purpose of future planning of civil defense activities, and enlist appropriate volunteer organizations in participation in civil defense activities.

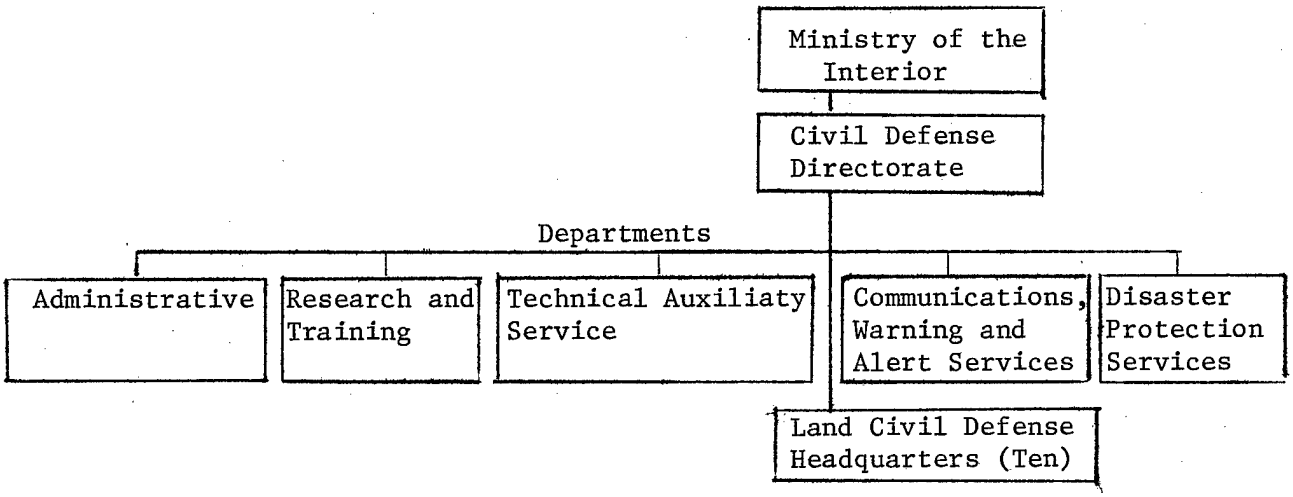
General supervision over the activities of civil defense agencies in the states is exercised by the governors who, jointly with civil defense consultative councils or commissions established under the state governments, allocate funds for civil defense needs. The state civil defense director, with a staff of 40, is responsible for immediate supervision of measures in this area.

Local civil defense headquarters are located in counties, cities and large towns. It is their job to draw up plans for shelter utilization, evacuation of the civilian population, provision of individual protective gear, to maintain communications and warning equipment at an appropriate level of readiness, as well as to train the civilian population in emergency procedures.

Underground command posts have been built to accommodate civil defense regional headquarters personnel and representatives of administrative authorities, and protected command and control facilities are being set up for directing civil defense at the state and local levels.

IN THE FEDERAL REPUBLIC OF GERMANY general supervision of national civil defense is assigned to the Ministry of Interior (Figure 2), while immediate direction of civil defense is handled by a civil defense directorate within the ministry, which plans national-level civil defense measures and coordinates the activities of the various federal ministries and agencies in the area of civil defense, as well as directs the activities of agencies responsible for civil defense in the FRG Laender and in West Berlin.

Figure 2. FRG Top-Level Civil Defense Administrative Agencies



The Civil Defense Directorate contains 5 departments. The department chiefs also serve as Civil Defense Directorate deputy chiefs, with the chief of the Civil Defense Directorate appointed by the minister of the interior and ratified by the government. According to the staffing schedule, directorate personnel are specified at 1500. During peacetime it is staffed at two thirds authorized strength.

The regional governments are responsible for the status of the civil defense system in the Laender, with Land civil defense departments. The government of each Land determines at its own discretion both their organizational structure and staffing requirements. In time of war or during exercises they are additionally staffed with specialists and personnel from various services and are transformed into civil defense regional headquarters (Land civil defense headquarters), which supervise all civil defense activities within their area of responsibility. Protected command posts have been set up in all 10 FRG Laender. Districts, cities, and communities have prior designated civil defense directors; civil defense headquarters are set up only during emergencies.

In FRANCE overall supervision of civil defense is handled by the Ministry of Interior, while immediate supervision is handled by the national civil defense directorate. In conformity with the principle of military and administrative-territorial division, civil defense agencies are located on the territories of all six military districts, which in case of war will be transformed into defense zones. Within these zones direction of civil defense is handled by the prefects of one of the departments within the zones. The prefect's working agency is the civil defense secretariat (defense zone civil defense headquarters in time of war). Civil defense headquarters will be collocated with military district headquarters. Defense zone civil defense headquarters staff size is approximately 60.

Prefects are responsible for civil defense support in the departments. They have consultative committees (civil defense headquarters in time of war), headed

by the department civil defense directors. The latter are divided into civil defense districts, which as a rule correspond to the administrative division. The civil defense district director also serves as technical adviser on civil defense matters under the administrative district subprefect.

Mayors are responsible for civil defense in cities and communities. Civil defense directors are designated in localities with a population in excess of 3,000, and consultative committees are formed. The mayor's responsibilities include drawing up detailed instructions for emergency situations, as well as preparing a list of personnel of various services responding to a civil defense alert.

In the UNITED KINGDOM the Home Ministry is responsible for civil defense activities. Other ministries are responsible for specific matters pertaining to protection of the civilian population. The government has established an interministerial civil defense planning committee to coordinate their activities, headed by a Home Ministry representative.

Direct supervision of national civil defense is handled by a civil defense directorate headed by a director general.

Handling of requisite measures on a regional scale is in conformity with Great Britain's territorial-administrative division into counties, city-counties, administrative districts and municipalities (in England, Wales and Northern Ireland), and into counties and municipalities (in Scotland). The authorities of these territorial-administrative units include civil defense planning committees (headed by a civil defense director), the makeup of which depends on the size of the local population.

In time of war all counties and administrative districts will be unified into civil defense districts and subdistricts (in England and Wales), civil defense zones (in Scotland), and civil defense areas (in Northern Ireland), with appropriate headquarters established, for directing the activities of civil defense agencies.

In conditions of an unchecked arms race, NATO ruling circles are endeavoring to implant in the civilian population of these countries the idea of inevitability of a nuclear conflict. At the same time Western military experts, attempting to reassure the public, state that efficient guidance of the activities of civil defense agencies at all levels, provision of requisite communication and warning equipment, equipped command posts and advance contingency planning will help ensure survival of the civilian population and the nation's economy even in conditions of an all-out nuclear war.

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PERCEPTIONS, VIEWS, COMMENTS

COMMENTARY ON NATO GROUND FORCES IN SOUTHERN EUROPEAN THEATER OF OPERATIONS

Moscow ZARUBEZHNOYE VOYENNOYE OBOZRENIYE in Russian No 1, Jan 83 (signed to press 19 Jan 83) pp 31-35

[Article, published under the heading "Ground Forces," by Col (Res) A. Gorozhanin: "NATO Ground Forces in the Southern European Theater of Military Opeeations"; passages rendered in all capital letters printed in boldface in source; passages highlighted by use of double-spaced words enclosed in slantlines]

[Text] The course of policy which is being consistently implemented by the Soviet Union and the other nations of the socialist community, a policy of strengthening peace, détente, and peaceful coexistence of nations with differing social systems, is diametrically opposed to the policy of U.S. ruling circles and their NATO allies. The course of policy taken by Washington, aimed at reviving the "cold war," is most clearly manifested in its attempts at crude interference in the affairs of other countries and attempts to dictate its will on them and to create dangerous focal points of military conflicts in various parts of the world. The countries of the aggressive NATO bloc, seeking military superiority over the socialist nations, have been undertaking, especially in recent years, new steps to escalate the arms race on the European continent. Large military forces, prepared to initiate military operations at any moment, are deployed in Europe in peacetime and are maintained at a high level of combat readiness.

An important place in the militaristic preparations of NATO leaders is assigned to establishment of a powerful force grouping on the southern approaches to the Soviet Union and the other socialist nations or, using their terminology, in the Southern European Theater of Military Operations (SE TMO). According to reports in the foreign press, this theater encompasses Italy, Greece, and Turkey, as well as the waters of the Mediterranean and the southern part of the Black Sea. It stretches almost 1,500 kilometers from north to south, and 3,200-3,500 km from west to east. This theater includes approximately 2,000 km of common border with the socialist countries, including the USSR (approximately 600 km). The population of the theater exceeds 105 million.

One of the specific features of the geographic position of the Southern European Theater is the disconnected nature of its land territory, which is divided by the waters of the Mediterranean basin into land areas isolated from one another: the Apennine Peninsula, the Balkans, and Asia Minor. In the estimate of NATO

military experts, this complicates command and control of the force grouping and makes it necessary to plan the conduct of combat operations in separate areas (Italy, Greece, and Turkey). In addition, it directly adjoins the borders of Warsaw Pact countries, as well as the "explosive" Near East region, where a complex military-political situation has been created time and again in the postwar period, through the efforts of U.S. and Israeli militarist circles, as a result of which there has continuously existed in this region the danger of initiation of wars by the imperialist nations. An example of this is the Israeli aggression against Lebanon in mid-1982. And finally, domination in the region, Western military experts believe, makes it possible not only to control lines of communication in the adjacent maritime and land regions, but also ensures access to the Indian Ocean, where in recent years the U.S. and NATO military have been attempting to consolidate a position in order to ensure "their vitally important interests."

In view of the military-strategic importance of the Southern European Theater as a bridgehead for aggression against the Soviet Union and the other socialist nations, the bloc command authorities have established in this region a large NATO Joint Forces grouping, consisting of U.S., British, Italian, Greek and Turkish forces placed at the disposal of the bloc. They are divided into the following commands: joint ground forces (two -- southern and southeastern parts of the theater); joint air and naval forces, as well as naval strike forces. A U.S. admiral is designated commander in chief of NATO joint forces in the Southern European Theater, with headquarters at Naples (Italy). It is noted in the foreign press that more than 1.1 million military personnel are stationed in this theater.

Ground forces (more than 850,000 men) are considered to be the largest force grouping among NATO Joint Forces in this theater. Judging from reports in the foreign military press, they total 32 divisions of various types, more than 40 independent brigades, combat support and combat service support units and subunits. Weapons include six Lance guided missile launchers, 24 Honest John rocket launchers, more than 5,600 tanks, approximately 10,500 field artillery pieces and mortars (as many as 170 howitzers can fire nuclear ammunition), almost 5,500 antitank guns, more than 1,300 antitank missile launchers, 330 antiaircraft missile launchers, 1,300 antiaircraft guns, more than 1,000 army fixed-wing and rotary-wing aircraft, plus other equipment.

THE NATO JOINT FORCES GROUND FORCE GROUPING IN THE SOUTHERN PART OF THE SOUTHERN EUROPEAN THEATER includes Italian and US. combined units and units stationed in Italy. Command and control are handled by the joint forces command in this part of the theater, headed by an Italian general officer. Headquarters are located in Verona (Italy).

As is reported in the foreign press, this force grouping contains three Italian army corps, separate ground forces units and subunits, as well as U.S. combat support and combat service support units and subunits. NATO military experts believe that the principal mission of these troops will be the conduct of offensive (defensive) operations in the Northern Italy sector (the northern boundary runs along the main ridge of the Eastern Alps, and the southern boundary runs along the northern coast of the Adriatic), which leads across the Brenner

(Bolzano-Innsbruck) and Villach (Gemona-Villach) passes in the Alps from Italy into Austria, and across the Gorizia-Ljubljana gap into Yugoslavia. The terrain is difficult and varied throughout this entire sector. The Lombardy plain is considered to be the most convenient area for military operations. It is also noted that in this sector combined units and units will operate jointly with NATO Joint Forces ground troops in the Central European Theater, adjacent force groupings, and will be supported by the aircraft and warships of the theater NATO Joint Naval and Air Forces.

/Italian troops/ (approximately 240,000 men) designated for transfer to operational subordination under the NATO joint ground forces command in the southern part of the Southern European Theater include 3 army corps (2 army and 1 alpine corps), 4 divisions (1 armored and 3 mechanized), 12 independent brigades (2 mechanized, 4 motorized infantry, 5 alpine, and 1 airborne), as well as combat support and combat service support units and subunits.[1]

Western military experts note that the bulk of the ground force grouping is deployed in Northern Italy. In case of conduct of combat operations, in their opinion two corps will be deployed in the forward echelon of this force: the 5th Army Corps (approximate composition: 1 armored division and 2 mechanized divisions) and the 4th Alpine Corps (as many as 5 independent alpine brigades); the support echelon will contain the 3rd Army Corps (1 mechanized division and independent brigades). Up to 3 independent brigades would be held in reserve. According to the experience of exercises conducted in conformity with the plans of NATO command authorities, as many as 10 independent brigades may be redeployed from the central and southern areas of Italy to reinforce this force grouping.

The foreign press reports that these combined units, units, and subunits are equipped primarily with weapons and combat equipment purchased in other countries or manufactured in Italy on foreign license. At the present time they include six Lance missile launchers, approximately 1,300 medium tanks (more than 800 Leopard-1 tanks and up to 500 U.S. M60A1 and M47 tanks), more than 4,000 armored personnel carriers and armored cars, more than 2,600 field artillery pieces, approximately 390 Mosquito, Cobra, SS-11 and TOW antitank missile launchers, more than 180 Hawk and Improved Hawk antiaircraft missiles, up to 200 antiaircraft guns, 300 army fixed-wing and rotary-wing aircraft, plus other combat equipment.

/U.S. forces/ in the southern part of this theater consist of units and subunits of the Southern European tactical group (its total strength is approximately 5,000 men). Judging from reports in the Western press, their mission is rear services support of U.S. ground forces units and subunits planned for deployment in the Southern European Theater (they are armed with artillery systems capable of striking enemy targets and objectives with nuclear munitions). It includes the 1st Separate Airborne Battalion of the 509th Infantry Regiment, the 559th Nuclear Munitions Artillery Support Group, and the 8th Rear Services Group, stationed at Vicenza (Italy).

The following topic items are usually rehearsed at the command and staff and troop exercises conducted by the combined units and units of this force

grouping: organization and conduct of offensive and defensive operations in various situation conditions, with employment both of mass destruction weapons and conventional weapons, teamwork and cooperation with joint air and naval forces, as well as troop command and control. Considerable attention is devoted to measures pertaining to reinforcing bloc troops operating in Northern Italy by redeployment of mobile NATO forces, as well as additional deployment of a number of Italian combined units and units.

THE NATO JOINT FORCES GROUND TROOPS GROUPING IN THE SOUTHEASTERN PART OF THE SOUTHERN EUROPEAN THEATER includes Greek and Turkish ground troops combined units designated for transfer to NATO, as well as U.S. and British troops stationed in this area. Command and control are handled by the commander of NATO Joint Ground Forces in this part of the theater (usually a Turkish general officer), with headquarters in Izmir (Turkey). The command's zone of responsibility encompasses part of the Balkan Peninsula with the adjacent Black Sea straits zone and Turkey in Asia. NATO ground troops stationed in this zone are designated for the conduct of offensive and defensive operations in close coordination with NATO Joint Air and Naval Forces.

According to reports in the foreign press, the principal NATO Joint Ground Forces grouping in the Southern European Theater is deployed in this area, totaling 28 divisions, approximately 20 independent brigades, as well as various combat support and combat service support units and subunits. The majority are concentrated in Northern Greece, Eastern Thrace (Turkey in Europe) and in the eastern part of that country, that is, in areas which directly border on socialist nations.

As foreign military experts note, this deployment of ground forces combined units and units also predetermines the probable sectors in which military operations would be conducted: Greek, Bosporus-Dardanelles, Kars-Erzurum and Karaköse-Diyarbekir.

The Greek sector is bounded on the west by the Adriatic Sea and on the east by Turkey and the Aegean Sea. In the opinion of NATO command authorities, it should provide egress for troops onto Yugoslavian and Bulgarian territory through passes in the Serbian-Macedonian and Rila-Rhodope mountains.

The Bosporus-Dardanelles sector is considered the most important in the theater since, in the opinion of foreign military experts, progress of combat operations in this area will determine the outcome of operations to block and hold the Black Sea straits zone. It is bounded by the Turkish-Greek border, by the east shore of the Aegean, and by the Black Sea coast. Terrain conditions permit employment of all combat arms.

NATO command authorities designate an additional two sectors in Eastern Turkey: the Kars-Erzurum, and the Karaköse-Diyarbekir, which extend to the borders of the Soviet Union. Both are distinguished by complex mountainous terrain, difficult for combat vehicles to negotiate. The most convenient routes for troop operations are the Çoruh (along the Black Sea coast), the Kars-Erzincan, Sivas, and the Karaköse-Muş-Elazig (named after Turkish towns).

/The Greek forces/ in the NATO Joint Forces ground force grouping in the southeastern part of the Southern European Theater consist of the 1st Field Army (4 army corps), and combined units, units and subunits under central command and control. According to reports in the foreign press, it totals more than 130,000 men and contains 12 divisions (1 motorized infantry, 10 infantry, and 1 division of special troops), 5 independent armored brigades (two of these can if necessary be consolidated into an armored division), 2 separate Honest John rocket battalions, 2 Improved Hawk antiaircraft missile battalions, 12 artillery battalions, 3 antiaircraft artillery battalions, a separate army aviation battalion and 14 army aviation companies.[2] They are armed with 8 Honest John launchers, more than 1,500 tanks, including 230 French AMX-30, 300 M48A5 and as many as 950 obsolete U.S. M47, M48, and M24 tanks, more than 1,360 armored personnel carriers, 1,500 armored cars, 120 infantry fighting vehicles, more than 2,600 field artillery pieces (more than 70 of which can fire nuclear rounds), and approximately 1,200 antitank guns. They are also armed with SS-11, Cobra, TOW, and Milan antitank missile launchers, Hawk and Improved Hawk antiaircraft missile launchers, 130 antiaircraft guns, and almost 100 army fixed-wing and rotary-wing aircraft.

NATO bloc command authorities believe that if necessary the Greek forces operating in the Greek sector can be reinforced by redeploying to Thrace (an area in Northeastern Greece) units and subunits of NATO mobile ground forces, as well as conduct of mobilization measures within Greece.

/Turkish forces/ designated for transfer to the NATO Joint Forces ground force grouping in this part of the theater include 4 field armies (1st, 2nd, 3rd and Aegean, a total of 14 divisions), 21 independent brigades (6 armored, 4 mechanized, 9 infantry, 1 commando, 1 airborne), central-subordination combat support and combat service support units and subunits.[3] Principal forces are concentrated in Turkey in Europe and in Eastern Turkey. In particular, as is noted in the foreign press, combined units and units of the 1st Field Army are stationed in Eastern Thrace, with headquarters at Üsküdar (2nd, 3rd, 5th, and 15th Army Corps, a total of 10 divisions, 2 of which are mechanized and 8 infantry, as well as 4 independent brigades), plus combat support and combat service support units and subunits. In the estimate of Western experts, this army, which is the most up-to-strength and battleworthy, has the mission of fighting jointly with allied troops in the Bosporus-Dardanelles sector.

The 3rd Field Army is deployed close to the Soviet border (headquarters in Erzincan). It includes the 8th and 9th Army Corps, 3 independent brigades, combat support and combat service support units and subunits. Units and subunits of the 7th Army Corps of the 2nd Field Army (headquarters in Konya) are stationed in the vicinity of the town of Diyarbekir. This force grouping is designated for conduct of combat operations on the Kars-Erzurum and Karaköse-Diyarbekir axes.

The Aegean Field Army (headquarters at Narlider), the 6th Army Corps (Adana) of the 2nd Field Army, the 4th (Ankara) and 11th (Kyrenia, Cyprus) independent army corps, as well as separate units and subunits are stationed in the southwestern part of Turkey in Asia, in the central and southern areas of Turkey.

As is reported in the foreign military press, the combined units and units of this contingent of Turkish ground forces are armed both with modern and obsolete combat equipment -- mainly of U.S. manufacture. Equipment includes 16 Honest John rocket launchers, more than 3,000 medium tanks (including 40 Leopard 1A3, approximately 150 M48A5, approximately 1,600 M48 and M47 tanks), almost 3,000 armored personnel carriers, more than 5,000 field artillery pieces and mortars (44 nuclear), 2,500 antitank guns, and approximately 300 army aviation fixed-wing and rotary-wing aircraft.

/U.S. forces/ include the 558th Nuclear Munitions Artillery Support Group (headquarters at Elefsis) and the 67th Logistic Support Group (Çakmakli, near Istanbul), which are elements of the Southern European Tactical Group, while /British forces/ include 2 motorized infantry battalions stationed on Cyprus.

Within the overall system of military preparations in the Southern European Theater, NATO command authorities attach great importance to reinforcing the bloc's southern flank. In particular, judging from reports in the foreign press, plans are in progress to deploy 112 cruise missiles (28 launchers) on Italian soil, new troop command and control systems are being deployed in the theater, the supply stockpiling system is being expanded, and facilities are under construction for the conduct of electronic intelligence and collection of information on installations located in the Soviet Union and other socialist countries.

A particularly important role is played by operational and combat training of staffs and troops, which is of a clearly-marked aggressive thrust. It is organized and carried out in conformity with the plans ratified by NATO command authorities, and its main objective is to prepare staffs, combined units, units, and subunits to perform combat missions in various situation conditions, employing both conventional and nuclear weapons. Conduct of training according to national plans mandatorily takes into consideration the requirements of NATO leaders, who are empowered to verify the level of training of ground troops dedicated to NATO Joint Forces in the Southern European Theater.

All these and other practical measures carried out by NATO command authorities in the Southern European Theater attest to orderly preparation of the Armed Forces of the NATO member nations for war against the Soviet Union and the other nations of the socialist community. This is why all the personnel of our Armed Forces should work continuously to increase their combat readiness in order, together with the personnel of the brother armies, reliably to defend socialist achievements.

FOOTNOTES

1. For information on Italy's ground forces, see ZARUBEZHNOYE VOYENNOYE OBOZRENIYE, No 5, 1982, pp 28-31 -- Ed.

2. For information on Greece's ground forces, see ZARUBEZHNOYE VOYENNOYE OBOZRENIYE, No 6, 1982, pp 27-30 -- Ed.

3. For information on Turkey's ground forces, see ZARUBEZHNOYE VOYENNOYE OBOZRENIYE, No 1, 1982, pp 34-38 -- Ed.

PERCEPTION, VIEWS, COMMENTS

COMMENTARY ON WESTERN HELICOPTER ARMY AVIATION

Moscow ZARUBEZHNOYE VOYENNOYE OBOZRENIYE in Russian No 1, Jan 83 (signed to press 19 Jan 83) pp 35-43

[Article, published under the heading "Ground Forces," by Engr-Sr Lt A. Khromov: "Army Aviation Helicopters"; passages rendered in all capital letters printed in boldface in source]

[Text] Plans for further increasing the combat capabilities of the ground forces of the major capitalist countries assign an important role to helicopters. These countries' military leaders view helicopters as an effective means to perform various combat and auxiliary missions, such as close air support of ground troops (including engagement of enemy armor), transport of troops, equipment and supplies, delivery of airborne assault forces, conduct of air reconnaissance, surveillance and communications, evacuation of wounded, and performance of auxiliary operations. Helicopters of various types have been and are being developed abroad for this purpose: helicopter gunships, multirole, reconnaissance, and assault-transport. The following table contains specifications and performance characteristics of several models.

HELICOPTER GUNSHIPS have the missions of close air support of ground troops (engagement of tanks and other battlefield targets), suppression of ground air defense weapons, particularly antiaircraft missile systems, escort of assault-transport helicopters, plus other tasks. Experience in employing multirole helicopters to accomplish the above-enumerated missions indicated that they failed to meet requirements. This led to the development of specialized helicopter gunships with improved specifications and performance characteristics, greater maneuverability and heavier firepower. The first such models appeared in U.S. Army aviation in 1967, when the AH-1G Huey Cobra became operational. It is distinguished by small size, and particularly small fuselage cross section, which makes its detection more difficult. Armor protection for crew, powerplant and other critical assemblies was provided to enhance survivability. In conformity with the missions assigned to these helicopters, the AH-1G Cobra carries fairly potent armament: 2 6-barrel 7.62 mm Minigun machineguns (8000 rounds of ammunition) or a Minigun (4000 rounds) and a 40 mm grenade launcher (300 grenades), or 2 grenade launchers (300 each) are ring-mounted under the nose. In addition, it can carry 4 70 mm rocket pods, a total of 76 rockets, mounted from wing hardpoints. Gunfire is controlled primarily by a weapons operator in the forward cabin. Judging from reports in the foreign press, more than 1100 such helicopters were built up to 1973.

Specifications and Performance Characteristics of Army Aviation Helicopters of Capitalist Countries

Designation and Name (Country Where Developed, Year Operational)	Crew Size / Number of Engines x Horsepower	Gross Take-off Weight, kg: Normal / Maximum	Speed, km/h Maximum / Cruise	Service Ceiling, m / Maximum Range, km	Armament Combinations, payload
1	2	3	4	5	6
Helicopter Gunships					
AH-1S Huey Cobra (USA, 1977)	2 / 1 x 1800	4100 / 4535	315 / 230	3720 / 500	8 TOW AT missiles, 1 x 20 mm or 30 mm cannon, 76 x 70 mm rockets
AH-64A Apache (USA, 1984)	2 / 2 x 1540	6500 / 8000	310 / 290	6250 / 610	16 HELLFIRE AT missiles, 1 x 30 mm cannon, 76 x 70 mm rockets
SA342M Gazelle (France, 1980)	2 / 1 x 590	1700 / 1900	310 / 260	4300 / 750	4-6 HOT AT missiles
PAH-1 (BO-105P) (FRG, 1979)	2 / 2 x 420	2000 / 2300	270 / 245	5100 / 650	6 HOT AT missiles
A129 Mangusta (Italy, 1984)	2 / 2 x 800	3350 / 3600	285 / 250	— / 630	8 TOW or HOT AT missiles, 2 x 7.62 mm machineguns, 38 x 70 mm rockets
Multirole					
UH-1H Iroquois (USA, 1967)	2 / 1 x 1400	3390 / 4300	205 / 190	3840 / 510	2 x 7.62 mm machineguns, 11 men or 1800 kg
UH-60A Blackhawk (USA, 1979)	2 / 2 x 1540	7700 / 9200	300 / 270	5800 / 600	2 x 7.72 mm machineguns, 11 men or 3600 kg
WG.13 Lynx (UK, 1975)	1-2 / 2 x 900	4350 / 4760	330 / 295	5000 / 660	6 AS-11 AT missiles, 8 HOT or TOW AT missiles, 36 x 68 mm rockets, 20 mm cannon, 10 men or 1500 kg
A.109A Hirundo (Italy, 1975)	1-2 / 2 x 420	2200 / 2500	310 / 280	2900 / 700	4 AS-11 or TOW AT missiles, 28 x 70 mm rockets or 2 x 7.62 mm machineguns, 7 men or 1000 kg
Reconnaissance					
OH-6A Cayuse (USA, 1966)	2 / 1 x 320	1050 / 1225	240 / 215	4815 / 610	1 x 7.62 mm machinegun (6-barrel), 1 x 40 mm grenade launcher, 4 men or 430 kg

Table (cont'd from preceding page)

1	2	3	4	5	6
OH-58A Kiowa (USA, 1969)	2 1 x 320	1100 1360	220 190	5760 490	1 x 7.62 mm machinegun (6-barrel), 1 x 40 mm grenade launcher, 4 men or 640 kg
		Assault-Transport			
CH-47C Chinook (USA, 1969)	2-3 2 x 3750	15,000 22,680	290 250	3300 500	33-44 men or 12,700 kg, external-slung
SA330B Puma (France, 1969)	2-3 2 x 1570	. 7400	260 250	4800 550	20 mm cannon, 7.62 mm machinegun, 16 men or 2500 kg
CH-53G (FRG, 1969)	3 2 x 3925	16,000 19,000	315 280	6300 550	38 men or 8000 kg, external-slung
KV-107/11A (Japan, 1967)	2-3 2 x 1400	8600 9700	260 240	4570 350	26 men or 3200 kg

In mid-1975 army aviation subunits took delivery on the first antitank helicopter, the AH-1Q,[1] armed with 8 TOW AT missiles. It is based on the previous model, AH-1G, the Huey Cobra, designed for close air support of ground troops and extensively utilized by the Americans during the aggressive war in Vietnam. A total of 92 helicopters were refitted.

Endeavoring to improve the speed and maneuver capabilities of the AH-1Q, U.S. experts developed for it a more potent powerplant and a new main rotor. This modernized version was designated the AH-1S. In addition to 8 TOW AT missiles (or 4 rocket launchers), it carries a 3-barrel 20 mm cannon.[2] It carries an improved fire control system. The helicopter is equipped with a Doppler navigation system, a laser range finder, a digital computer, a radar illumination detection unit, equipment to reduce the thermal signature of the helicopter's powerplant, as well as an active infrared jammer. Plans call for equipping it with a forward-looking infrared scanning system for night operations.

In the estimate of U.S. military experts, the AH-1S helicopter is an effective means of engaging tanks. They are of the opinion that in European conditions 200 AH-1S helicopters are capable of disabling more than 900 tanks in a single strike sortie. Thanks to the capability to vary speed and direction across a broad range and to proceed toward the target at nap-of-the-earth height, utilizing terrain irregularities for concealment, they can approach the target undetected to effective missile release range, remaining little vulnerable to ground air defense weapons and fighters. According to data in the foreign press, by the end of 1984 U.S. Army Aviation battalions will be equipped with approximately 1000 AH-1S antitank helicopters, 300 of which will be new, while the remainder will be modified AH-1G and AH-1Q helicopters.

The United States is approaching completion of service trials on the AH-64A Apache second-generation helicopter gunship (Figure 1) [not reproduced], designed taking into account requirements on future equipment of this type, the principal mission of which is to engage tanks. U.S. experts believe that it is considerably superior to existing models. In particular, experts note its excellent performance characteristics, the fact that it carries potent armament and the latest electronic equipment, with armor protection for the crew space and other important elements. The TADS/PNVS^3 electro-optical system (located in the nose) was specifically designed for this helicopter.

The AH-64A Apache helicopter can carry 16 third-generation HELLFIRE antitank missiles with a semiactive laser homing head. A 30 mm cannon (1200 rounds) is mounted on an underfuselage ring mount. According to reports in the foreign press, in order to expand the combat capabilities of the HELLFIRE system, future plans call for equipping the missile with a TV or combined (radar and IF) head. A combination of such a weapon with the latest detection devices, stabilized sight, fire control computer, laser rangefinder-target designator and TV sight should ensure, according to the designers, effective tank kills at ranges up to 6 kilometers, day and night, in all weather.

Series production of the AH-64A Apache helicopter is scheduled to begin in 1983. The Army intends to purchase approximately 450 of these, which will be employed alongside AH-1S helicopters.

In 1980 France's ground forces began taking delivery on the specialized SA342M Gazelle helicopter gunship, which is a further development of the SA341 multi-role helicopter. A bigger powerplant (870 in place of 600 horsepower) has made it possible substantially to improve the craft's maneuverability and control-lability during low-altitude flight and to eliminate vibration in hovering mode. This helicopter is equipped with a self-contained navigation system, Doppler radar, a gyrostabilized sight, and a system for reducing engine thermal radia-tion.

Although the SA342M helicopter (Figure 2) [not reproduced] can carry 6 HOT antitank missiles, the decision was made to carry 4, in order to increase en-durance from 2 to 2.5 hours. It is noted in the foreign press that at a maximum rate of fire with the HOT missiles (three per minute), target hit probability is almost 90 percent, while effective range of fire against tanks is 4 km. In 1984 French army aviation will have in service approximately 130 SA342M Gazelle helicopters.

Aerospatiale has designed the SA365M Dauphine-2 helicopter gunship, designed chiefly to engage tanks, and primarily under night conditions. It carries 8 HOT antitank missiles and a forward-looking infrared scanning unit coupled to an optical sight. In 1982 8 night missile firings at ranges of 2.5-3.7 km were accomplished with an experimental model, 7 of which scored target hits. When this helicopter is performing the ground troops close support role, it can carry 44 68 mm rockets in place of guided missiles.

In the FRG, delivery of 212 PAH-1 (BO-105P, Figure 3) [not reproduced] antitank helicopters to the Bundeswehr has been completed. This is a modification of the

BO-105 general-purpose light helicopter, armed with HOT antitank missiles. In the estimate of foreign experts, the PAH-1 has excellent performance characteristics, especially at low altitude, as well as high maneuverability. Also noted are such drawbacks as poor flight endurance and limited utilization capability at night and in bad weather.

Since the end of the 1970's Messerschmitt-Boelkow-Blom (FRG) and Aerospatiale (France) have been working on joint development of the PAH-2 second-generation specialized helicopter gunship, which would maximally meet today's requirements. It was noted in the foreign press that it will be similar in configuration to the U.S. AH-64A Apache. Night operational capability will be provided by an electro-optical target detection and weapon control system. It is planned to arm the PAH-2 with future antitank missiles (up to 8) and a 20 or 30 mm cannon. Delivery of the new helicopter is scheduled to commence in the latter half of the 1980's.

Italy is also designing a specialized helicopter gunship, the A.129 Mangusta, with plans for use in an antitank version. Principal armament includes 8 TOW antitank missiles (subsequently these may be replaced by new U.S. HELLFIRE missiles). Flight testing is scheduled for 1983. It was reported in the foreign press that flight testing began in the middle of last year on another Italian gunship, the AB.412 Griffon, armed with a 20 mm cannon and 2 70 mm rocket launchers (19 rockets apiece). In place of rockets it can carry four air-to-ground or air-to-air missiles.

MULTIROLE HELICOPTERS can be used to conduct reconnaissance, to provide supporting fire to ground troops, to transport personnel and cargo, for liaison, delivering assault troops, evacuating wounded, performing search and rescue operations, and performance of other missions.

The principal multirole U.S. Army helicopter is the UH-1H Iroquois (approximately 4,000 units), which was extensively employed during the aggressive war in Vietnam, chiefly to deliver assault troops and transport supplies. It can carry 11 troops or up to 1800 kilograms of cargo. This helicopter, when equipped with a Quick Fix electronic jammer (designated EH-1H), is used to jam from the air enemy radio communications equipment.

Since 1979 the U.S. Army has been taking delivery on the new UH-60A Blackhawk multirole helicopter, replacing the UH-1H Iroquois. It is planned to purchase more than 1100 of these. The UH-60A Blackhawk (see color plate insert) [not reproduced] was developed by Sikorsky, taking into consideration requirements pertaining to enhancing survivability and capability to operate in adverse weather. Crew seats and important systems are armor-protected against small-arms fire. The helicopter is equipped with a radar illumination detector, engine thermal radiation reduction equipment, and an infrared-band jammer. It can carry 2 7.62 mm machineguns.

Judging from reports in the foreign press, a UH-60A Blackhawk helicopter can transport (external-slung) a 105 mm howitzer, 30 howitzer rounds, as well as a 6-man gun crew. A removable external hardpoint system has now been developed for this helicopter, consisting of 2 cantilever wings (positioned under the powerplant) with 2 pylons on each. They can be used for mounting additional fuel tanks (almost tripling unrefueled range), M56 cluster mine units, TOW or HELLFIRE antitank missiles, or rocket launchers.

The Quick Fix 2 electronic intelligence and countermeasures unit was designed for the UH-60A Blackhawk, and the SOTAS tactical surveillance and target designation system is being developed (with an airborne side-scanning radar).

From the middle of the 1950's to the beginning of the 1970's, a number of Western European countries were taking delivery on the French SA318C Alouette-2 and SA316B Alouette-3 light multirole helicopters, in various modifications. They were designed chiefly for conducting reconnaissance, providing close air support of ground troops, and for transporting 4-6 men and 600-800 kg of cargo. They are armed with one or two 7.62 mm machineguns, a 20 mm cannon, 68 mm rocket launchers, and from 4 to 6 AS-11 or AS-12 antitank missiles.

French and British army aviation units are equipped with the SA341F Gazelle helicopter,[4] developed jointly by the two countries (they possess 168 and 165 units respectively). One feature of this aircraft is a rigid main rotor employing fiberglass, and a Fenestron type multiblade tunnel-housed tail rotor in the vertical tail assembly. The principal mission of the Gazelle helicopter is reconnaissance, battlefield surveillance, communications, transporting personnel and supplies, evacuating wounded, and fire support of ground troops. With a maximum takeoff weight of 1800 kg, it can carry 4 fully equipped troops or 600 kg of cargo. Various armament configurations: 4-6 HOT or 4 AS-11, or 2 AS-12 antitank missiles; 2 rocket launchers; 2 7.62 mm machineguns.

Since the middle of the 1970's British ground forces have been taking delivery on new WG.13 Lynx multirole helicopters (Figure 4) [not reproduced], also a joint Anglo-French project. Of the 114 units ordered, approximately 80 will be modified into an antitank version. Each of these will carry 8 HOT or TOW antitank missiles. For performing other missions, in place of the above the helicopter can carry 2 7.62 mm machineguns, a 20 mm cannon, and 68 mm rockets. The possibility of arming it with air-to-air missiles is being studied. The crew of the WG.13 Lynx wears special goggles during night operations. Future plans include improving the gunsight, adding a forward-scanning system and a laser rangefinder.

FRG army aviation, in addition to 190 U.S. UH-1D Iroguois helicopters, is equipped with approximately 200 multirole Alouette-2 and 3 helicopters. In 1979 it began to take delivery on new BO-105M multirole helicopters of German design and manufacture. By 1983 the ground forces are to receive up to 100 of these helicopters. The foreign press reports that tha BO-105M helicopter is rather highly maneuverable, is simple and reliable in operation. In addition to the conduct of reconnaissance, transporting personnel and cargo, it can be employed as an airborne artillery fire control post. With a maximum takeoff weight of 2300 kg, this helicopter is designed to transport 4 troops with weapons, or 2 wounded on stretchers, or 560 kg of cargo.

In the 1960's the Italian firm of Agusta built approximately 300 AB.204, 205 and 206 helicopters under U.S. license, aircraft which are virtually identical to the multirole Iroquois helicopter. They are intended primarily for conducting air reconnaissance and fire support of ground troops. Some are armed with AS-11 or TOW antitank missiles. Since 1975 this company has been building the A.109 Hirundo multirole helicopter (Figure 5) [not reproduced], which can be used as an antitank weapon when armed with antitank missiles.

Japan's army aviation is equipped with more than 140 U.S. UH-1H multirole helicopters built in that country under license by Bell. Construction of the BK-117 multirole helicopter began in 1981, an aircraft designed jointly by the Japanese firm of Kawasaki and the West German Messerschmitt-Boelkow-Blom. It is powered by two turbines of 650 shaft horsepower each, has a maximum takeoff weight of 2800 kg, carries a payload of 1200 kg, has a maximum speed of 260 km/h and a range of 540 km. It is planned to build a certain number of BK-117s in an antitank helicopter version, armed with antitank missiles.

RECONNAISSANCE HELICOPTERS are used for conducting air reconnaissance, battlefield surveillance, target detection, guiding helicopter gunships to targets, and field artillery fire adjustment. Specialized reconnaissance helicopters have been developed only in the United States. The armies of the European countries use multirole helicopters for these missions: the Scout in Great Britain, the Gazelle in France and Britain, and the BO-105M in the FRG.

The OH-6A Cayuse was the first U.S. reconnaissance aircraft, seeing extensive service during the war in Vietnam. More than 1,400 of these were built up to 1970; a large part of these are presently operating in Army Reserve and National Guard units. In 1969 the U.S. Army began replacing these with OH-58 Kiowa reconnaissance helicopters (2200 units were delivered). Presently approximately 600 of these have been modernized: in particular, they are powered by a stronger engine (420 horsepower) and a new transmission. This version is designated the OH-58C.

Since the beginning of the 1970's the United States has been conducting research on developing a future reconnaissance helicopter within the framework of the ASH (Advanced Scout Helicopter) program. In connection with its high cost of development, however, in 1981 the decision was made to postpone the project until the end of the 1980's and to begin modernizing existing reconnaissance helicopters. The U.S. companies Bell and Hughes took part in the AHIP (Army Helicopter Improvement Program) competition; these companies are to submit designs for modernizing the OH-58A Kiowa and OH-6A Cayuse helicopters. A version of the former was selected, designated "Textron-406" (Figure 6) [not reproduced]. It carries a package of surveillance gear mounted over the main rotor hub: a forward-scanning infrared unit, a TV camera, as well as a laser target designator. The helicopter is equipped with an automated system for segregating observed objects, a radar illumination detector, and a Sperry flight control system. It is to be armed with air-to-air missiles.

ASSAULT-TRANSPORT HELICOPTERS are designed to transport and deliver troops, military equipment and supplies, to evacuate wounded personnel and damaged equipment, and to perform rescue operations.

The U.S. Army's principal assault-transport helicopter is the CH-47 Chinook, which exists in various modifications. It was developed by Boeing Vertol at the beginning of the 1960's. More than 700 of these helicopters have been purchased. Some are operated by the armies of Greece, Iran, Spain, and Italy. This helicopter has a large cargo cabin, which can accommodate up to 5 tons of cargo or 44 troops with personal weapons. It can carry large-size loads on an external sling, such as the M198 155 mm howitzer (with crew and ammunition

carried in the cabin). The Army plans to have 527 modernized CH-47D helicopters (Figure 7) [not reproduced], 91 of which will be new, while 436 will be refitted from the earlier CH-47A, B, and C models. The refitting operation, which specialists at Boeing began in 1982, includes new rotor blades, improved hydraulic and electrical systems, a new auxiliary powerplant, and an improved three-point load suspension system.

Judging from reports in the foreign press, more than 70 CH-54B Skycrane heavy transport helicopters in the Army inventory have been transferred to National Guard units. They were frequently used in Vietnam to evacuate damaged equipment and to carry heavy loads (up to 10 tons) externally slung.

Up to the middle of the 1970's Boeing Vertol was working on development of a heavy transport helicopter to transport large-size loads inside a sling-suspended container (measuring 12.2 x 2.4 x 2.4 m) or on two external hardpoints. Its maximum loadlifting capacity was to be approximately 30 tons. In the opinion of Western experts, work on this project may resume in the future.

In Great Britain the WG.30 military transport helicopter, built by the firm of Westland for ground forces (based on the multirole WG.13), is ready to enter regular production. The wide fold-back doors on both sides of the fuselage make it possible to haul large-size loads, and quickly to off-load troops and equipment onto the battlefield. The cargo cabin can accommodate 14 assault troops in full combat gear or 21 troops with reduced gear. Takeoff weight is 5330 kg, cruising speed 250 km/h, and it has a flight endurance of 3.5 hours.

The SA330 Puma assault-transport helicopter, a joint Anglo-French design, is employed by Britain's Royal Air Force.

The French Army operates more than 130 SA330 Puma helicopters (Figure 8) [not reproduced], each of which is capable of carrying 16 men. Aerospatiale has developed the SA332B Super Puma multirole helicopter, based on this aircraft. It boasts more powerful engines and a new transmission, with rotor blades fabricated of composite materials. The helicopter can carry a 20 mm cannon or 7.62 mm machineguns, while 68 and 70 mm rocket launchers can be mounted along the sides of the fuselage. The cargo cabin can accommodate 21 fully equipped soldiers.

CH-53G assault-transport helicopters, built under U.S. license by the West German firm VVW-Fokker, are used in the FRG for transport tasks. A total of more than 100 of these have been delivered. The helicopter is equipped with electronic gear for nap-of-the earth flight and for flying in bad weather. The lower part of the fuselage is watertight-sealed to provide on-water landing capability. The CH-53G can carry 38 infantrymen or up to 8 tons of cargo.

Japan's army aviation employs the KV-107 helicopter, based on the U.S. CH-46D assault-transport helicopter. The cargo cabin accommodates 26 armed troops or 15 wounded on litters. A 270 kg winch is provided for rescue operations. The fuselage is watertight and, thanks to side fairings, has fairly good stability for landings on water. In the future it is planned to replace these helicopters with U.S.-built CH-47 and CH-53 craft.

Armed Forces command authorities in the capitalist nations, especially members of the aggressive NATO bloc, considering helicopters to be an effective means of performing a broad range of combat missions, are working on improving existing and designing new helicopters of various designation. They are utilizing the latest scientific and technological advances, and in particular new materials, especially composite materials, are being extensively employed. Experts are focusing principal attention on increasing reliability and survivability of helicopters, improving specifications and performance characteristics, and equipping them with the latest electro-optical gear, making it possible to operate day and night, in adverse weather.

Recently specialized helicopter gunships armed with antitank missiles have experienced considerable development in the capitalist countries. They are considered one of the principal means of engaging tanks on the battlefield.

FOOTNOTES

1. In the foreign press a helicopter armed with antitank missiles is often called an antitank helicopter -- Ed.

2. Since 1981 a 30 mm cannon (with 500 rounds of ammunition) has been mounted on this same ringmount -- Ed.

3. For more detail on this system, see ZARUBEZHNOYE VOYENNOYE OBOZRENIYE, No 10, 1981, page 34 -- Ed.

4. In the United Kingdom it has the designation SA341B Gazelle.

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PERCEPTIONS, VIEWS, COMMENTS

COMMENTARY ON ORGANIZATION OF NATO AIR FORCES IN CENTRAL EUROPE

Moscow ZARUBEZHNOYE VOYENNOYE OBOZRENIYE in Russian No 1, Jan 83 (signed to press 19 Jan 83) pp 51-57

[Article, published under the heading "Air Forces," by Col V. Grigor'yev: "NATO Joint Air Forces in Central Europe"; passages rendered in all capital letters printed in boldface in source; passages highlighted by use of double-spaced words enclosed in slantlines]

[Text] In conditions of an increasingly complex international situation, when the attention of all progressive mankind is riveted on the new peace initiatives of the Soviet Government, the military leaders of the aggressive NATO bloc are stepping up efforts to escalate the militarist psychosis and to increase the power of their armed forces, particularly in Central Europe. According to reports in the foreign press, large military forces are deployed and maintained in a continuous state of combat readiness even in peacetime on the territories of the FRG, Belgium, and the Netherlands, which are included by NATO strategists in the Central European (CE) Theater of Military Operations. These forces include a ground force grouping -- the Northern and Central Army Groups (NAG and CAG), as well as two joint tactical air commands (2nd and 4th JTAC), which are consolidated into a NATO Joint Air Forces Theater Command (with headquarters at Ramstein Air Force Base, in the FRG).

According to figures in the foreign press, out of the total forces dedicated to NATO Joint Air Forces in Europe (approximately 2600 tactical fighters and reconnaissance aircraft, up to 600 air defense fighters, and 1800 antiaircraft missile launchers), more than half of the aircraft and antiaircraft missiles are at the disposal of the commanders of the 2nd and 4th JTAC, as well as 72 Pershing IA operational-tactical missile launchers.* At the same time, utilizing the propaganda hue and cry about an alleged "Soviet threat," NATO command authorities are steadily increasing the military aviation of the region's countries plus the United States, comprising the nucleus of the theater joint air forces. In recent years, for example, the U.S. 3rd and 17th Air Forces have been reinforced with 300 combat aircraft. Two wings were added to these formations (the former contains 72 F-111 heavy fighter-bombers, Figure 1 [not

* An additional 72 Pershing IA missile launchers are at the disposal of U.S. ground forces stationed in Europe -- Ed.

reproduced], and the latter -- more than 100 A-10 Thunderbolt-2 attack aircraft), plus a fighter squadron (24 specialized F-4G Wild Wiesel ECM tactical fighters). In addition, 4 fighter squadrons have been upgraded with F-15 Eagle in place of F-4D Phantom-2 aircraft, while one has been upgraded with F-16 Fighting Falcons in place of F-4Ds.

The Belgian and Dutch air forces are continuing to take delivery on new F-16 fighters, with which already 4 squadrons are equipped, while the West German Air Force is taking delivery on Alpha Jet light ground-attack aircraft, which are equipping a third fighter-bomber squadron. By mid-1982 more than 100 of the new Tornado tactical fighters had been built for the British, West German, and Italian air forces. A joint training center has been established at Cottesmore, England to retrain aircrews to these fighters, as well as combat training centers in Honington, England, and Erding, West Germany. Delivery of Tornado aircraft to these countries' line air force units has begun.

In the process of military preparations, NATO command authorities are devoting considerable attention to improving the NATO forces command and control systems, including the forces and facilities of the 2nd and 4th JTAC. In particular, as reported by the foreign press, the following measures are being performed to improve efficiency of forces command and control: headquarters of the 4th JTAC has been relocated to Heidelberg, Germany, where it is collocated with CAG headquarters; the 407L theater tactical air control system has been replaced by the more sophisticated 485L automated control system; the 412L Nadge NATO joint automated air defense control system is being modernized, while at the operations base at Geilenkirchen, Germany, selected as principal base, at forward bases and basing locations, work connected with deployment of a long-range radar detection and control system, to be based on U.S. E3A Sentry aircraft, is being completed.

We present below, on the basis of information published in the foreign press, the organization, composition and combat training, as well as development prospects of NATO joint air forces in the Central European Theater.

ORGANIZATION AND COMPOSITION. As noted above, NATO joint air forces in the Central European Theater are organized into the 2nd and 4th JTAC which, in the opinion of foreign military experts, are the largest and most combat-ready NATO air forces in Europe. They are intended for conduct of combat operations both independently and jointly with ground forces.

Organizationally these formations are of identical structure. There is one structural feature which predetermines, in particular, the table of organization of headquarters staffs and top-level command and control agencies, namely: the JTAC commanders serve simultaneously as commanders of air defense forces of the corresponding air defense regions (2nd and 4th), while the theater joint air forces commander serves simultaneously as commander of air defense forces of the Central Zone of the NATO Joint Air Defense System in Europe. Such a strict centralization of command and control assumes particular significance in connection with changes in the views of NATO command authorities on the nature of combat operations by air and air defense forces in today's war, which are reflected in the so-called "NATO air doctrine."*

* For more detail, see ZARUBEZHNOYE VOYENNOYE OBOZRENIYE, No 1, 1979, pp 49-52; No 11, 1981, pp 43-48 -- Ed.

Depending on the military-strategic situation in the theater, it specifies conduct of aggressive offensive air operations (the principal type of combat operations) or defensive (forced) operations with enlistment of the firepower of other combat arms. In the opinion of NATO military experts, unified command and control of strike aviation, fighter-interceptors, antiaircraft weapons and air reconnaissance forces in the course of air operations ensures sufficient flexibility and efficiency of utilization of these assets with concentration of efforts in the most important areas by targets and time.

The JTAC chief of staff has deputies for operations, planning, logistics, and administrative affairs. Also subordinate to him are the chief of the air combat operations control center and the chief of the air defense region operations center. The first supervises the directorates developing air operations, the second engages in planning combat operations, exercises and inspections, while the third works with personnel, logistic support and special supply.

In peacetime JTAC headquarters handles overall planning of combat operations, including with employment of nuclear weapons, prepares operations documents pertaining to command and control, coordination, combat and logistic support of units in case of war, organizes and supervises exercises, verifies combat readiness of alert tactical air and air defense forces, and takes part in preparing exercises held within the framework of NATO joint forces and air forces. He also checks to ensure that combined units and units transferred to JTAC in a period of crisis meet the requirements of NATO command authorities pertaining to combat training.

2nd JTAC. Its commander, through headquarters, located in Muenchengladbach, Germany, directs subordinate air and missile combined units and units stationed in the northern part of the FRG, in Belgium and the Netherlands (where U.S. forces are deployed). Upon initiation of combat operations, it is reported in the foreign press, he will exercise command and control of his forces from a principal (Maastricht, Netherlands) or alternate command post (Kahlkar, Germany). The latter is collocated with the command post of the FRG Air Force 3rd Air Support Division.

This JTAC contains the following: British air forces in FRG command, Belgian and Dutch tactical air commands, 3rd Air Support Division and 4th Air Defense Division of the FRG Air Force, as well as one U.S. Air Force squadron. As was noted in the foreign press, in connection with the addition of a U.S. ground force in the NAG, the 2nd JTAC is to be reinforced with U.S. Air Force strike units and subunits stationed in the United Kingdom, that is, we are dealing essentially with a redistribution of the efforts of the U.S. 3rd Air Force and detachment of a portion of its forces for operations in the zone of the NAG.

/The British Air Forces Command in Germany/ (headquarters in Rheindahlen) contains the following air squadrons: two squadrons of Buccaneer S.2 light bombers, 4 squadrons of Jaguar GR.1 tactical fighters (Figure 2) [not reproduced], 2 squadrons of Harrier GR.3 V/STOL tactical fighters, 2 squadrons of Phantom FGR.2 fighter-interceptors, and a squadron of Wessex HC.2 helicopters (replacement of equipment with Chinook SHC.1 helicopters is in the completion stages). All are organized into wings (34th, 121st, 135th and 137th), each of which contains from

3 to 4 squadrons. In addition, it contains several Bloodhound -2 and Rapier antiaircraft missile subunits.

The command totals 160 combat aircraft and 80 antiaircraft missile launchers. Combat air wings are stationed at Laarbruch, Brueggen, Guetersloh, and Wildenrat air force bases. All of these are defended by antiaircraft missile systems.

/The Belgian Air Force's Tactical Air Command/ (headquarters at Evere, a suburb of Brussels) contains the 2nd, 3rd, and 10th Fighter-Bomber wings, the 1st Fighter Wing, the 15th Air Transport Wing, as well as the 9th and 13th Nike-Hercules antiaircraft missile wings. Each air wing contains two squadrons, while an antiaircraft missile wing contains 4 squadrons. The TAC has a total of approximately 150 combat aircraft (36 of which are nuclear weapon platforms), 20 military transport aircraft, and 72 Nike-Hercules antiaircraft missile launchers. The principal types of combat aircraft are the F-104G Starfighter and Mirage-5BA tactical fighters, the Mirage-5BR reconnaissance aircraft, plus new F-16 fighters.

All TAC units are stationed on Belgian soil ((Florennes, Klein-Brogel, Boveshen, B'yerce, and Mel'sbruk) air force bases), while the Nike-Hercules launchers are employed in the western areas of the FRG.

/The Dutch Air Force Tactical Air Command/ (headquarters at Zeist) contains 5 fighter-bomber squadrons, a reconnaissance squadron, 2 fighter (air defense) squadrons and an air transport squadron, as well as a Nike-Hercules antiaircraft missile battalion and 2 ImprovedHawk battalions. A wing is formed of from 2 to 3 squadrons. The TAC has 144 combat aircraft (36 of which are nuclear weapon delivery platforms) and 12 transport aircraft, 36 Nike-Hercules antiaircraft missile launchers, and as many as 50 Improved Hawk launchers.

The TAC operates F-104G Starfighter and NF-5A fighter-bombers, RF-104G reconnaissance aircraft, and F-16 fighters (Figure 3) [not reproduced]. Air units and subunits are stationed at Volkel, Eindhoven, Susterberg, and Leuvarden air forces bases, and the antiaircraft missile battalions are deployed on the territory of the FRG.

/The FRG Air Force 3rd Air Support Division/ (headquarters at Kahlkar) contains the 31st, 36th, 41st, and 43rd fighter-bomber squadrons, as well as the 2nd Pershing IA operational-tactical missile squadron. It flies F-104G Starfighter (Figure 4) [not reproduced] and G.91 (which are being replaced by Alpha Jets) fighter-bombers, F-4F tactical fighters, Alpha Jet light attack aircraft, RF-4F reconnaissance aircraft, and Pershing IA missiles. It has a total of approximately 180 combat aircraft and 36 Pershing IA missile launchers. The air units are stationed at (Nervenikh, Hopsten, Leck) and Oldenburg air force bases.

/The FRG Air Force's 4th Air Defense Division/ (headquarters at Aurich) consists of the 71st Fighter Squadron (Wittmundhafen Air Force Base, approximately 40 F4F aircraft), as well as the 3rd, 4th, 13th, and 14th Nike-Hercules and Improved Hawk (more than 200 launchers) antiaircraft missile regiments.

The 2nd JTAC also includes the 32nd Tactical Fighter Squadron (18 F-15 aircraft) of the U.S. 17th Air Force, which is operationally subordinate to the JTAC commander and is stationed at Susterberg Air Force Base (Netherlands). It is assigned air defense missions.

According to figures in the foreign press, the peacetime strength of the 2nd JTAC is approximately 700 combat aircraft, as well as up to 500 antiaircraft missile launchers and 36 Pershing IA operational-tactical missile launchers.

4th JTAC (headquarters at Heidelberg, FRG). It includes air and missile combined units and units stationed in the south of the FRG, where the forces of the Central Army Group are deployed. The principal command center is located at Kindsbach, with an alternate at (Messhtetten). The latter is collocated with the command post of the FRG Air Force's 1st Air Support Division.

The 4th JTAC includes the U.S. 3rd and 17th Air Forces, the FRG Air Force's 1st Air Support and 2nd Air divisions, as well as the Canadian Air Force's 1st Air Group. U.S. and West German units and subunits form the nucleus of this command.

/The U.S. 3rd Air Force/ (headquarters at Mildenhall, England) contains the following wings: 20th, 48th, and 81st Tactical Fighter wings, 10th Tactical Reconnaissance Wing, and 513th Tactical Air Transport Wing. They are equipped with F-111 heavy fighter-bombers, A-10 attack aircraft, RF-4C reconnaissance aircraft, and C-130 Hercules medium military transport aircraft. All are stationed on British soil at (Upper-Hereford, Lakenheath ,) Bentwaters, Woodbridge, (Olkonberi) and Mildenhall air force bases. The formation totals as many as 300 combat aircraft (including reconnaissance aircraft).

/The U.S. 17th Air Force/ (headquarters at (Zembach), FRG). It contains the 36th, 50th, 52nd, and 86th tactical fighter wings, the 26th Tactical Reconnaissance Wing, the 601st HQ Wing, several separate squadrons (tactical air transport, electronic warfare, etc), as well as other support subunits. In addition, the 17th Air Force contains the 32nd Tactical Fighter Squadron, placed operationally under the 2nd JTAC. The units and subunits of this air force fly F-15, F-16, F-4E and C tactical fighters, as well as a number of aircraft of other types, such as RF-4C reconnaissance aircraft, F-4G EW aircraft, C-130 military transports, OV-10 Bronco command, control and guidance aircraft; it contains a total of approximately 300 combat aircraft. Principal basing locations include Wittburg, (Khan, Shpangdalem), Ramstein, Zweibruecken, and (Zembach) (all in the FRG).

/The FRG Air Force 1st Air Support Division/ (headquarters at Lautlingen). It includes the 32nd, 33rd, and 34th (F-104G aircraft), 35th (F-4F) and 49th (Alpha Jet) fighter-bomber squadrons (deployed at Lechfeld, Buechel, Memmingen, Pferdsfeld, and Fuerstenfeldbruck air force bases respectively), the 51st Reconnaissance Squadron (RF-4E, Bremgarten Air Force Base), and the 1st Squadron of Pershing IA operation-tactical missiles. Each contains two squadrons (approximately 18-20 aircraft each). The division contains a total of more than 200 combat aircraft and 36 Pershing IA missile launchers.

/The FRG Air Force's 2nd Air Defense Division/ (headquarters at Birkenfeld) contains the 74th Fighter Squadron (more than 30 F-4F aircraft, Neuburg AFB), as well as the 2nd Nike-Hercules Antiaircraft Missile Regiment and the 1st Improved Hawk Antiaircraft Missile Regiment (72 launchers each).

/The Canadian Air Force's 1st Air Group/ (headquarters at Lahr, FRG) consists of three squadrons of CF-104G tactical fighters (18 aircraft each). All are based at Sollingen AFB in West Germany.

According to figures in the foreign press, in peacetime the 4th JTAC has a strength of approximately 900 combat aircraft, 144 antiaircraft missile launchers and 36 Pershing IA launchers. In addition, antiaircraft missile units of U.S. Army combined units stationed in this area are operationally under the commander of the JTAC.

Thus the force grouping of air forces in the Central European Theater, organizationally represented by NATO joint air forces in this theater, total approximately 1600 combat aircraft, more than 600 antiaircraft missile launchers and 72 operational-tactical missile launchers. According to information in the Western press, the majority of tactical fighters are capable of delivering nuclear weapons.

A portion of the combat-ready tactical air forces of the NATO joint air forces in the Central European Theater is on around-the-clock alert duty, on 15-minute alert status. Antiaircraft missile batteries, air force and air defense command and control facility teams also stand alert duty.

In a period of crisis this air force grouping can be reinforced by redeploying from the United States a substantial number of so-called "dual-based" tactical squadrons. According to a statement by former U.S. secretary of defense Brown, the U.S. Air Force will be capable of redeploying to Europe up to 60 squadrons in a period of 10 days. Most are designated for beefing up NATO joint air forces in the Central European Theater. In addition, as the foreign press reports, British Air Force units and subunits based in the UK, which are organizationally contained in a separate command (headquarters at (Khay-Uik)) and which total approximately 300 combat aircraft of various types (including up to 50 Vulcan medium strategic bombers), in case of war can be employed in the zone of responsibility of the 2nd and 4th JTAC, essentially constituting a reserve of the commander of joint air forces in the Central European Theater.

Judging from information in the foreign press, the Pentagon intends to dedicate up to 80 B-52D strategic bombers from the U.S. Air Force Strategic Air Command (each of these is capable of delivering to the target 20-30 tons of bombs per mission) for the conduct of combat operations supporting ground and naval forces, from air bases located both in the United States and in Europe. A substantial percentage of these aircraft can be employed to reinforce joint air forces in the Central European Theater. For example, according to the general plan of U.S. Air Force command authorities, these aircraft, operating from (Marem) Air Force Base in England, will provide air support to ground troops in Central Europe.

COMBAT TRAINING of NATO joint air forces air and missile units in the Central European Theater is accomplished in the process of daily training and numerous air force and air defense exercises such as "Cold Fire" and "Clouded Chorus," etc.

One feature of these exercises is joint training by air defense units on modern forms of employment of air and ground air defense forces in offensive operations to gain air superiority and to destroy ground targets in support of ground forces (performance of close air support missions and sealing off tactical areas of operations), as well as missions to repulse massive enemy air attacks. Exercise scenarios specify creation of a complex air and ground situation.

During exercises, as is noted in the foreign press, the theater air force grouping is often reinforced with tactical air subunits of the U.S. Air Force and Air National Guard redeployed from the North American continent. Aircrews cross the Atlantic with midair refueling, study the European Theater, and then rehearse delivery of massive strikes on airfields and attacks by waves of groups of 8-12 aircraft against other targets in bombing-range conditions.

Tactical fighters rehearse tactics of air defense penetration, approaching and identifying targets with the aid of forward air controllers, as well as coordinated actions with ground troops weapons. Fighters, ground forces and air defense forces rehearse the elements of conduct of defensive air operations. They work on detection and identification of air targets, maneuver of forces to routes of massive enemy air attacks, with command and control transferred from operational sector centers (centralized command and control method) to battalion and battery command posts (decentralized).

In addition, the capabilities of new aircraft and weapons are tested at exercises (for example, the effectiveness of A-10 attack aircraft to destroy moving armored targets jointly with helicopter gunships); they also elaborate uniform performance standards and requirements on troop operations in specific theater conditions.

The amount of attention NATO strategists devote to matters of training troops for combat operations in the Central European Theater is indicated by their statements in the Western press, according to which the physical size of Central Europe and its high degree of airspace saturation with aircraft of various types make it impossible fully to rehearse large-scale air operations. Therefore in order to create conditions maximally approximating actual combat, training has been transferred... to North America, to the far-off state of Nevada, where a special range has been set up in the vicinity of Nellis AFB, equipped with targets suitable to the conditions of the Central European Theater. As we know from U.S. and other foreign periodicals, members of the air forces of all European NATO countries, in addition to U.S. Air Force personnel, regularly train there under a program code-named "Red Flag."

DEVELOPMENT PROSPECTS. According to reports in the foreign press, NATO command authorities intend to accomplish further increase in the striking power of the joint air forces in this theater within the framework of overall NATO military preparations. A total of 19.4 billion dollars is being allocated, by decision

of the December 1981 meeting of the NATO Council, for reequipping air force units and development of the air-force infrastructure. The program to reequip FRG Air Force units and subunits with Alpha Jet ground-attack aircraft (the final, 175th unit has been delivered) will be completed in 1983, while the program to reequip the Belgian and Dutch air forces with F-16 fighters will be completed in 1984 (only 218 of the 348 aircraft scheduled to be built jointly with Norway and Denmark will actually be delivered), and by 1987 -- the program to equip the British and FRG air forces with Tornado multirole tactical fighters (Figure 5) [not reproduced]; they will have received more than 700 aircraft by that time; a total of 809 of these aircraft are to be built, 100 of which are for the Italian Air Force).

We should also mention measures to prepare for deployment of cruise and Pershing II operational-tactical missiles, E-3A radar early-warning and control AWACS aircraft, designated for NATO joint forces in Europe. NATO hawks do not conceal their pleasure over the increase in NATO nuclear power in Europe and operational capabilities which are opening up to improve their air force command and control system and to conduct aerial espionage when these assets become available.

In addition to the above-enumerated basic programs pertaining to building modern aircraft and reequipping units and subunits with these aircraft, plans call for producing the next generation of highly-effective weapons systems (guided missiles, bombs and cluster bombs), more sophisticated antiaircraft missile systems (Patriot, Roland), command, control and communications systems -- all that which directly influences effectiveness of utilization of air assets in the theater.

All this once again attests to the fact that the NATO bloc member nations, following the aggressive policy of their senior partner, the United States, are continuing an intensified arms race, are increasing the combat power of their armed forces, and are preparing to initiate war, particularly against the USSR and the other socialist nations. This is openly stated by military leaders of the imperialist NATO alliance.

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COMMENTARY ON GUIDANCE SYSTEMS FOR AIR-TO-SURFACE MISSILES

Moscow ZARUBEZHNOYE VOYENNOYE OBOZRENIYE in Russian No 1, Jan 83 (signed to press 19 Jan 83) pp 57-63

[Article, published under the heading "Air Forces," by Engr-Col V. Dmitriyev and Engr-Col B. Mikhaylov: "Air-to-Surface Tactical Missile Guidance Systems"; passages rendered in all capital letters printed in boldface in source]

[Text] Guided weapons are considered by Western military experts to be one of the principal air means of engaging air, ground, and water-surface targets. Possibilities of their employment against targets of various kinds and types are determined primarily by the diversity of guidance systems. Judging from reports in the foreign press, air-to-surface missiles presently in service and being developed abroad, as well as guided aircraft bombs are equipped with command, TV, laser, radar, inertial and other guidance systems.

Development of guidance systems is proceeding in the directions of increasing effectiveness and jamming resistance, reducing size and weight, developing self-contained homing heads, in which state-of-the-art microelectronics make it possible to automate the processes of target search, identification, tracking, and weapon guidance to target immediately following weapon release from the aircraft. Concise performance characteristics of principal guidance systems are presented below.

COMMAND GUIDANCE SYSTEMS appeared in guided missiles in the 1950's. When such systems are employed, missile guidance is accomplished along the "aircraft-target" line of sight with the aid of various devices: optical, wire, radar, laser, and others. As a rule the pilot must visually spot the target and, upon observing conditions of fire, release the missile, and then hold it on the line of sight. If the missile diverged from the target the pilot, performing appropriate actions, would alter the missile's flight trajectory. Electrical signals are generated, which are encoded and transmitted to the missile, where they are decoded and, following conversion in the autopilot, are applied to the control surfaces.

Development of wire-guided aircraft missiles was based on surface-to-surface missiles. It is believed that they are virtually jam-free, but their effective range is limited to the length of the wires carried on the missile. Development of missiles with such guidance systems stopped, although the aircraft of a

number of capitalist countries still use certain models, including the French AS-11 (Figure 1) [not reproduced] and AS-12, plus the Swedish Rb53.

It is noted in the Western press that missiles with radio command guidance systems can be used only in visual visibility conditions, which limits their maximum effective range. Other drawbacks of these guidance systems are the following: vulnerability to jamming, which can significantly diminish missile effectiveness in conditions of hostile ECM; the necessity of guiding the missile right up to target impact, virtually maneuver-freezing one's own aircraft, and this substantially increases its vulnerability to antiaircraft weapons. In addition, the effectiveness of missiles employing such guidance systems is also diminished by a purely psychological factor -- the pilot sometimes stops tracking the target in the terminal part of the missile flight trajectory due to heavy delivery of hostile fire. In spite of these drawbacks, however, the air forces of foreign countries employ several missiles with such guidance systems, in particular the U.S. AGM-12 Bullpup, the French AS-30, and the Swedish Rb05.

An infrared goniometer, which operates together with the missile's tracking flare, is employed in some weapon systems with radio command (the French AS-30 missile) and wire (the U.S. TOW and the French-West German HOT antitank missiles) guidance system. In this case the pilot's job consists in holding the crosshairs on the target, while determination of missile deviation from the line of sight, forming of guidance commands and transmitting them to the missile by wire or radio channel are accomplished automatically. It is believed that employment of such equipment somewhat simplifies the pilot's operations of guiding the missile to the target.

A radar command guidance system is employed in the Italian Marte helicopter missile. An on-board radar altimeter makes it possible to keep the missile at a specific altitude, while a helicopter-borne radar, used to search for and track the target, provides the missile with azimuth guidance.

The laser command guidance system which is presently under development in the United States is designed to guide HVM hypersonic antitank missiles. This system includes an exterior-mounted laser guidance and control unit, in which all operations pertaining to target search, identification, tracking and guidance of several missiles simultaneously to the target are automated. In the process of guidance, the unit's rapid-scan laser beam makes it possible to determine the current position of missiles and targets, as well as to transmit to the missile coded flight trajectory correction commands, which control pulse rocket motors. U.S. experts believe that such automation will make it possible to employ the HVM with high-speed tactical aircraft.

Guided missiles and aircraft bombs began to be equipped with TV GUIDANCE SYSTEMS at the end of the 1960's and beginning of the 1970's. The first to be developed were TV guidance systems with prior target lockon (prior to firing or bomb release), while TV command guidance systems were developed in the latter half of the 1970's.

When employing guided missiles or guided bombs with TV guidance systems with prior lockon, the pilot detects the target with the aid of a homing head TV

camera, the video image from which is transmitted to a screen situated in the aircraft cockpit. Following target selection, final lockon and homing head switch to tracking mode, the pilot fires the missile or releases the guided bomb, after which they automatically home on the target. The U.S. Walleye 1, GBU-8 and 9 guided aircraft bombs, the Maverick AGM-65A and B guided missiles are equipped with such systems, as is the Israeli Luz-1 missile, where the TV camera is mounted on an external gimbal mount. Guided bomb target tracking is accomplished by target contrast. The homing head of the Maverick missile also employs the light-contrast method of target discrimination against the background, but as the missile approaches the target, the homing head switches to centroid tracking mode, resulting in increased guidance accuracy.

The maximum range of employment of weapons with a TV guidance system is determined by detection range, which depends to a considerable degree on target contrast, size and configuration, as well as aircraft altitude and TV camera resolution. For example, according to data published in the foreign press, tank detection slant range is approximately 4 km, while the slant range for detecting a railway bridge is 11-17 km.

In the United States work is in progress on increasing the effective range of these systems in conditions of good visibility and on the development of low light level TV systems. In particular, this is to be achieved by employing special high-sensitivity TV tubes and image converter tubes used to amplify image brightness.

It is noted in the foreign press that the TV command guidance system, in contrast to the TV guidance system with prior lockon, makes it possible to employ guided missiles and bombs at a significantly greater distance from the target, as well as to hit low-contrast targets. In addition, after firing the missile, the aircraft can execute a maneuver to evade antiaircraft weapons or can withdraw in a direction away from the target, but even in this case the guided weapon will remain in the coverage area of the receiving antenna of the communications and guidance equipment on the missile-firing aircraft.

Two-channel communications and guidance equipment is used for missile and bomb guidance, containing a video channel on which a TV image is transmitted from the missile or bomb, and a command channel, for transmitting guidance commands in the terminal phase of the trajectory.

A missile or bomb can be released at extremely low altitudes. After release the missile or bomb climbs 500-600 meters, after which the communications equipment switches on, and a picture of the terrain along the weapon's flight path is transmitted to a display on board the aircraft. The TV camera is locked in the middle phase of the flight trajectory (at a pitch angle of approximately 10°). The pilot can adjust the missile or bomb flight trajectory by altitude and course by feeding the following control signals: up, down, right, left. Identifying the target which has appeared on the display screen, he releases the TV camera, and crosshairs appear on the screen. Then, with the aid of the control panel, the pilot places the crosshairs on the target and holds them until the missile or bomb impacts. With a solid target lockon by the missile or bomb homing head, one can switch to homing mode. It is reported that guidance accuracy (circular error probable) is approximately 10 meters and depends on range,

inherent guidance system error, and to a considerable degree on the skill of the pilot. The U.S. Walleye-2 and GBU-15 guided bombs (Figure 2) [not reproduced] as well as the British version of the Martel guided missile -- the AJ168 -- are equipped with a TV command guidance system.

According to foreign experts, in spite of all the advantages of TV guidance systems, they possess the substantial drawback that weapons can be employed only with favorable weather conditions (good visibility).

LASER GUIDANCE SYSTEMS, which first appeared in the United States at the end of the 1960's and beginning of the 1970's, are employed in the U.S. GBU-10, 11, 12, and 16, and the French BGL guided bombs (Figure 3) [not reproduced]. They operate in the infrared band (wavelength 1.06 micrometer). The semiactive laser homing head for a guided bomb consists of a target vector resolver and electronics unit. The vector resolver consists of a receiving device with a four-quadrant photodetector and a ring stabilizer. Signals received from the four segments of the photodetector are processed in the electronics unit, and control signals are formed, which are subsequently applied to the bomb control surfaces in the form of commands.

Laser-guided weapons presently in operational use abroad are released at altitudes of 100-6000 meters. Laser beam target illumination can be accomplished from the weapon-delivering aircraft, from another aircraft, or by a forward air controller from the ground. When the illumination equipment is carried on the firing aircraft, both stationary and moving targets can be attacked. In addition, there is no need for coordination between the weapon-firing aircraft and whoever is providing target illumination. Such weapon utilization is possible, however, only from aircraft with a two-man crew and equipped with special containers with detection and target designation devices.*

Laser-guided bombs are employed as follows. After the aircraft enters the target area and detects the target, the pilot-weapon operator switches on the laser target designator and, when the required firing conditions are met, releases the bomb. The aircraft executes a maneuver to evade antiaircraft fire, but the laser beam continues continuously tracking and illuminating the target. The bomb's homing head senses the reflected laser radiation and determines direction to the target; error is measured between the line of aim and the bomb's direction of flight, proportional to which control signals are generated.

In the opinion of U.S. military experts, the results of employment of laser-guided bombs during the war in Southeast Asia demonstrated their substantial advantages over conventional (unguided) bombs. At the same time they believe that high target kill accuracy with the aid of guided bombs can be achieved only in relatively favorable conditions of combat application, that is, with weak defensive fire and absence of jamming, which significantly diminishes the effectiveness of such weapons.

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* For more detail on aircraft laser weapon control systems, see ZARUBEZHNOYE VOYENNOYE OBOZRENIYE, No 4, 1981, pp 56-61 -- Ed.

In recent years efforts have been stepped up abroad to develop semiactive laser homing heads for guided missiles. Such devices are being developed, in particular, for the U.S. AGM-65E Maverick guided missile and the AGM-71 HELLFIRE antitank missile, as well as for the French AS-30L.

RADAR GUIDANCE SYSTEMS are employed in missiles designed to engage radar-contrast targets, such as surface ships. At the present time the AGM-84A Harpoon antiship missile (U.S., Figure 4) [not reproduced], the AM-39 Exocet and Automate missiles (France), the AS-34 Kormoran (FRG) and the ASM-1 (Japan) antiship missiles are equipped with active radar homing heads.

An active radar homing head consists of an antenna with a mechanical scanning device, a receiver and a signal processing unit. It does not begin operating until reaching the area of the target, to which the missile is brought with the aid of an inertial guidance system. According to the flight program, 12-15 km from the target the missile gains altitude (from 10-15 to several hundred meters), in order to enable the homing head to detect and lock onto the target (according to reports in the foreign press, in field trials the probability of target lockon by the active homing head of such missiles as the Harpoon, Exocet, and Kormoran was about 99 percent). After this the missile descends, and guidance is automatic up to the point of target impact.

The sea surface generates for active radar homing heads natural noise interference, the level of which depends on the sea state. When the seas are high only signals from large ships are reliably separated out on the noise background. In addition, it is believed that the effectiveness of weapons with such homing heads considerably diminishes in conditions of hostile electronic countermeasures, and this factor is being considered in designing new guided missiles, such as the U.S. STM and the Anglo-French-West German ASSM. Designers of the next generation of foreign antiship missiles claim that they should travel at supersonic speed with a range of approximately 200 km. This is due not only to the requirement of increasing aircraft survivability but also the fact that during the time a missile travels a substantial distance at subsonic speed the target may move a considerable distance, in connection with which it will be necessary to increase the homing head search sector. Target lockon by the homing head at the search sector boundary may result in missile maneuverability proving to be inadequate.

Judging from reports in the foreign press, development of self-contained homing heads is a new trend in the area of radar guidance systems, for example, for the U.S. Wasp missile, being developed in the WAAM program. With the aid of such a unit it will be possible to perform target search, detection, identification and missile guidance to target. In the opinion of foreign experts, automatic performance of these functions has become possible thanks to the latest advances in radar and computer hardware as well as in microelectronics. It is believed that utilization of the millimeter band will make it possible to develop a small radar homing head possessing high resolution and generating a large volume of target data.

High-output microprocessors have been developed abroad in recent years, microprocessors which can successfully solve complex missile guidance problems

(processing of large volumes of information at high speed), as well as compact microelectronic-component memory units capable of recording and storing operating programs for microprocessors. This would make it possible to feed into the memory unit of the Wasp missile standard radar images (signatures) of standard targets (tanks, armored personnel carriers, self-propelled artillery, etc) on terrains which are typical for different theaters and in various natural-climatic conditions. After missile launch, a current image of the terrain with targets positioned on it, obtained with the aid of a radar homing head, would be compared (correlated) by the microprocessor with standard signatures of standard targets, resulting in identification and selection of the target designated to be hit, as well as generation of control commands for automatic missile guidance.

In the latter half of the 1960's, in connection with the extensive use of radar equipment with various weapon systems, work began in the leading capitalist countries to develop special guided missiles to combat such systems by destroying operating radars. An antiradiation homing head is employed for guidance of these missiles, comprising a radar surveillance receiver which detects sources of radio-frequency emissions in standard wavebands.

The following missiles are currently equipped with antiradiation homing heads: the AGM-45 Shrike, the AGM-78 Standard-ARM, the AGM-88A HARM (United States), and AS.37 Martel (France). Several different interchangeable homing heads have been developed for the Shrike and Standard-ARM missiles, so that they can be employed against radar targets of different types and function. All homing heads operate in monopulse receiving mode across a broad waveband. The homing head on the Standard-ARM missile contains special electronic circuitry which memorizes the coordinates of the target radar site, thanks to which the missile can be guided to the target even if the radar transmitter is switched off. In the homing head of the Martel missile, when it is to be used against a radar of a known type, before the aircraft takes off the surveillance receiver heterodyne is tuned to a specific frequency. The homing head of a HARM missile can guide it to hostile radar operating in the 3, 5, 10, and 25 cm bands both in pulse and continuous mode.

The homing head on the West German Kormoran antiship missile also contains a search receiver, which is switched on in the terminal phase of flight and searches out the radiation-emitting target. If a target fix is made, the missile is guided by this receiver, while if no emission is detected, active radar gear is switched on in the head.

Heads operating on the principle of target detection on the basis of parasitic electromagnetic radiation, sources of which include ground equipment internal combustion motors and various electronic and electrical equipment, are a new variety of radiation-seeking head.

A U.S. program under the acronym ERASE (Electromagnetic Radiation Source Eliminator) is engaged in the collection and amassing of data on parasitic radiation of various electrical equipment of fixed-wing aircraft, helicopters, radars, trucks, tanks, armored personnel carriers, and other military vehicles. The obtained information is computer-processed for subsequent analysis of

radiated energy frequency distribution. At the same time the possibilities of parasitic radiation guidance are being studied for the Harpoon, Shrike, and Standard-ARM missiles. Homing heads operating in two modes would be developed for these missiles: radar active and parasitic radiation. To date there have been several launchings of Shrike missiles fitted with an experimental homing head, one of which was fired at a ship (at a range of 8 km from an altitude of 4000 m). It is noted in the foreign press that the sensitivity of such a head makes it possible to lock onto a target at a distance of 5 km with a radiated power of 1 watt (at 10 watts its effective range increases to 15 km).

INERTIAL GUIDANCE SYSTEMS are extensively employed in guided missiles and bombs. They are characterized by high resistance to jamming, absence of emission (which ensures that munitions are undetected in flight), and the capability to operate in all weather. These guidance systems make it possible to launch a missile or release a bomb beyond the effective range of active ground air defense weapons. Because of their poor accuracy, inertial guidance systems are employed only to bring missiles or bombs into the vicinity of the target, after which other guidance systems take over.

The main component of an inertial guidance system is a measuring unit, which contains a gimbal-mounted platform with two or three accelerometers which are gyrostabilized on the vertical or any other axis. The accelerometers measure current weapon acceleration values on the axes of the coordinates, while sensors in the gimbal mount joints measure the missile's angles of turn relative to the inertial frame. This information is fed into a computer, which determines current flight speed values, missile or bomb coordinates, bank angles, and also generates flight trajectory control signals in conformity with the specified program. After launch, the inertial system in antiship missiles operates as a rule jointly with a radar altimeter, which keeps the missile at a height of 10-15 meters above the water surface.

It is believed that modern inertial guidance systems are relatively complex and costly. In the opinion of foreign experts, they should be replaced with non-gimbal-mounted inertial systems and microprocessor computers and with ring laser gyroscopes, which boast excellent operational reliability and better accuracy in maintaining specified flight trajectories.

The United States and other member nations of the aggressive NATO bloc, in addition to improving existing guidance systems, are extensively involved in work on developing new systems, in particular IR imaging, difference-rangefinding, and correlation.

Research and development on IR imaging guidance systems for guided missiles and bombs is focused toward the development of homing heads operating on the principle of passive radar (that is, employment of targets' natural thermal radiation in the infrared) and possessing high resolution. Foreign experts believe that this will make it possible to employ weapons against ground targets day or night. The Hughes Corporation, for example, is developing an IR imaging homing head which would be used on the AGM-65D Maverick missile, the Walleye and GBU-15 guided bombs.

A DIFFERENCE-RANGEFINDING SYSTEM operates on the principle of determining coordinates by obtaining a bearing on a radio-frequency emitting source from several points. An example of such a system is the U.S. PLSS system, in which two or three aircraft with known position coordinates obtain a fix on operating hostile radars. The coordinates of the latter are figured on the basis of time difference of signal arrival to the aircraft's direction-finding gear and are transmitted to a strike aircraft carrying guided munitions, which destroys the radio-frequency emission sources, such as radar installations. System equipment carried by the weapon includes a small transceiver and a control device. After the weapon is launched (released), the bearing of the transceiver signal is determined in like manner in order to measure its current coordinates and to generate correcting commands. They are received by the missile or bomb on-board gear, converted into control signals, and are applied to the device operating the control surfaces.

According to reports in the foreign press, the accuracy of such a guidance system can reach several tens of meters. It is therefore believed that weapons with such a guidance system and a conventional warhead can be employed against large targets containing a radar installation, as well as against nonemitting targets with known coordinates. It is planned to equip primarily the GBU-15 guided bomb with a difference-rangefinding system. In addition, its use on missiles of various designation is being considered. Western experts consider this system to be economically advantageous, since its most complex component is carried by the attacking aircraft and can be used repeatedly. On the other hand, the equipment carried on the weapon is comparatively simple and much cheaper than other systems.

Among the most recent developments for air-to-ground tactical guided weapons, foreign military experts also note CORRELATION GUIDANCE SYSTEMS, the principal advantages of which are the following: securement of automatic munitions guidance following launch or release, a high degree of resistance jamming due to the absence of active emitting devices, fairly high guidance accuracy, elimination of significant restrictions in selecting weapon flight trajectory to the target, and substantially more difficult enemy employment of means of camouflage and concealement.

The basic operating principle of correlation systems of various types which are under development is grounded on comparison of an image of the target or area which was obtained in advance (by various means prior to launching the weapon) with a current image obtained by the airborne weapon guidance equipment. With such comparison, either the two images are compared in their entirety, or only target characteristic features. This results in isolating an error (discrepancy) signal, which is corrected by adjusting the weapon flight trajectory until both images coincide.

Primarily optical correlation systems are being developed for air-launched tactical guided weapons, particularly cluster bombs and guided missiles. In these systems preliminary target imaging is accomplished with the aid of aerial photography or TV equipment, after which the images are converted into a form suitable for recording in the airborne guidance equipment memory unit (electrical signals). In order to score a kill on any selected targets during a combat sortie, imaging and conversion are accomplished immediately prior to weapon release.

Special photodetector devices, including devices based on photomultiplier tubes with photocathodes, and correlatrons, are employed to obtain a current target image, to convert it and correlate (compare) it with the image fed into the memory unit. Since time of day and weather conditions exert considerable influence on the combat effectiveness of optical correlation systems, radiometric correlation systems are being developed to ensure all-weather and around-the-clock guidance. In these systems imaging is accomplished by means of radiometers which detect the natural thermal radiation of targets and the background environment in the millimeter and centimeter bands. Radiometric systems do not substantially differ from optical correlation systems in the basic operating principles, but they are inferior in such characteristics as resolution and accuracy of guidance.

Western military experts also consider highly promising the development of air-launched weapon guidance systems which employ various radionavigation systems (for example LORAN, NAVSTAR), normally employed for navigation by aircraft, ships, etc. They will be used to guide a missile or bomb to a prior-selected or reconnoitered target (that is, with known coordinates), day or night, in all weather. Guidance will be accomplished by the method of comparing target coordinates fed into the weapon's on-board computer and its current coordinates. The latter are computed continuously by means of processing signals emitted by radionavigation system transmitters. Depending on accuracy of determination of current coordinates, these guidance systems would be employed either to guide weapons in the middle phase of the trajectory and to bring them into the target area (for example, the LORAN system), or for guidance in the terminal phase (the NAVSTAR satellite radionavigation system).

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COMMENTARY ON LOW-ALTITUDE LOAD DROPS

Moscow ZARUBEZHNOYE VOYENNOYE OBOZRENIYE in Russian No 1, Jan 83 (signed to press 19 Jan 83) pp 63-64

[Article, published under the heading "Air Forces," by Lt Col L. Konstantinov: "Dropping Loads From Extremely Low Altitudes"]

[Text] The armed forces of the member nations of the aggressive NATO bloc devote particular attention to supplying troops with the requisite means of logistic support of their combat operations. In the opinion of NATO military experts, the most efficient and, in certain conditions, the only available means of accomplishing this important task is military transport aviation, development of which is assigned an important role in NATO plans. As is emphasized in the foreign press, alongside improving the aircraft inventory and raising the level of military transport aircrew training for accomplishing their assigned missions, including troop supply, the air forces of the United States and its NATO allies are developing new systems and methods of delivering supplies.

In recent years, alongside such conventional means as parachute (drop by cargo parachute) and landing (unloading aircraft after landing), dropping of loads from aircraft flying close to the ground without employing costly cargo parachute systems is becoming increasingly widespread. In particular, the United States has developed the so-called LAPES (Low Altitude Parachute Extraction System), which is fairly extensively employed by the crews of U.S. medium military transport aircraft. The Western press notes that this method has the following advantages over conventional parachute systems: higher accuracy of load drop, low probability of aircraft detection by hostile air defense in the drop area, simplicity of design, and the system's lower cost. In contrast to a system involving landing, it does not require an airfield (landing strip) provided with suitable equipment, shortens the time aircraft must remain in the off-loading area, etc.

The new method has also begun to be tested in several other NATO member nations. In particular, according to a report in the journal KAMPFTRUPPEN, testing of a similar method in the FRG was completed in 1982. Calling it "stabilized load drop from ground-hugging altitude," West German experts explain that loads are dropped without a cargo parachute from ground-hugging aircraft, with distance from the floor of the cargo cabin to the ground surface 3-5 meters. Stabilization of the loads during falling, ground impact and sliding along the

ground is achieved by employing parachutes which give the bottom of the cargo platform a certain angle relative to the surface of the ground at the moment of impact. C-160 Transall medium military transport aircraft took part in flight-testing the system.

Judging from reports in the Western press, the following procedure of preparing and dropping loads has been deviced. Loads weighing up to 3.5 tons (trucks, motorcycles, containers, crates, boxes, etc) are mounted on standard pallets adopted by the air forces of the NATO nations, for ease of transport, transfer, and storage. The pallets are secured by straps to a special wooden cargo platform, the bottom of which curves upward in the front (in the direction of the aircraft's flight) like the runners of a sled (Figure 1) [not reproduced]. All this comprises a cargo package (a C-160 Transall aircraft can carry up to four such packages).

A static line is secured to the front of the load. It is then extended approximately through the package's center of mass and a special movable beam toward the rear of the platform, with the aid of which one can adjust the angle of the longitudinal axis of the package relative to the horizon at the moment it separates from the aircraft. One or two parachutes (retired-from-service combat aircraft braking chutes) are attached to the end of the static line.

A flat stretch of ground at least 1 kilometer long, without obstacles, is needed to execute a drop. Of great importance for the safety of the aircraft and safe landing by the load is the nature of the surface (ground) and vegetation on it. According to a report in the Western press, an operation can be executed only during daylight hours, with good visibility, without gusting winds or precipitation.

The aircraft, with rear cargo hatch open and gear down (during tests above slightly rolling terrain the main gear wheels fairly frequently touched the ground) descends at a shallow angle, reaching drop height 400 meters before the designated drop point. In particular, a radar altimeter, standard equipment on C-160 Transall transports, was used for a precise run to the drop height. Subsequently the pilot holds altitude visually. In extensive snow-covered and sandy areas, lacking reference points for holding altitude, it is recommended that easily-seen objects of standard size (automobiles, for example), providing the pilot with a linear scale of reference, be positioned on the ground close to the drop point. At the moment of drop, the aircraft should be traveling at a speed of approximately 230 km/h. First the pilot chute is released, which performs a duel function: it releases the fasteners securing the cargo platforms to the aircraft's cargo deck, and it deploys the stabilizing parachutes, which extract the platforms (Figure 2) [not reproduced].

Single and double platform drops were executed during the tests. The conclusion was reached that in order to put four drop packages onto a single location, the best procedure is to drop the packages on platforms hinge-linked in pairs, since in this case the entire load ends up on a stretch of ground up to 500 meters in length. The platforms' deceleration path varies, in relation to platform weight and nature of the ground surface. On wet grass it was approximately 150 meters for single packages.

The design of the entire system, and in particular the design of the platforms have been acknowledged successful by West German experts. It is reported that the platform is inexpensive to make, holds direction well during the slide, does not tip sideways, and can be towed along the ground by motor vehicle. As drawbacks they list the very high demands imposed on pilot skills and on weather conditions essential for a successful drop.

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COMMENTARY ON NATO NAVAL EXERCISE 'NORTHERN WEDDING-82'

Moscow ZARUBEZHNOYE VOYENNOYE OBOZRENIYE in Russian No 1 Jan 83 (signed to press 19 Jan 83) pp 69-73

[Article, published under the heading "Naval Forces," by Capt 2nd Rank V. Khomenskiy: "NATO Joint Naval Forces Exercise 'Northern Wedding-82'"]

[Text] A prominent place in the chain of aggressive preparations being carried out at a rapid pace by NATO bloc leaders is assigned to maneuvers and exercises. Diversified variants of initiation of military conflicts, primarily against the USSR, are tested in the course of such activities, modes of conduct of combat operations are rehearsed in conditions maximally approximating an actual wartime situation, existing tactics are improved and new ones created, combat equipment is tested and its capabilities are determined.

As a rule maneuvers and exercises comprise undisguised militarist shows of force, conducted in the immediate vicinity of the borders of the Soviet Union, the other nations of the socialist community, as well as young developing countries which have taken an independent path of development. These "shows of force," according to the schemes of their organizers, are for the purpose of heating up the international situation to an even greater extent, of creating an atmosphere of war psychosis, of intimidating peoples and forcing them to reconcile themselves with imperialist plans of establishing world domination, with bowing to the dictate of U.S. ruling circles, and at the same time at securing the United States' Western European allies even more firmly to the NATO war chariot.

Among the large number of maneuvers and exercises, of various scale and character, conducted in 1982 within the framework of the NATO bloc, the foreign press particularly stresses the NATO joint naval forces exercise code-named "Northern Wedding-82," which ran from 6 to 17 September.

The exercise area encompassed the Eastern Atlantic, the Norwegian and North seas, the English Channel, and the Baltic straits. Its main objective, judging by reports in the foreign press, was testing and practical rehearsal of plans for shifting NATO naval forces from a peacetime to a war footing, their operational deployment in their designated areas, and the conduct of combat actions in the first operations of the initial period of a limited war without the employment of nuclear weapons.

Principal attention in the course of the exercise was devoted to engagement of the potential adversary's surface and undersea forces with the objective of gaining supremacy in the Norwegian, North and Baltic seas, as well as air supremacy, to the conduct of amphibious landing operations, defense of ocean and sea lines of communication, providing close air and fire support of ground troops operating in coastal areas, escorting convoys carrying reinforcement troops, military and civilian goods from the U.S. East Coast and Great Britain to Europe, defense of warships, landing troops and convoys at anchorages and at sea, organization of command, control and communications, intelligence, and logistic support.

Commands and staffs of NATO joint naval forces and national naval forces, NATO's Atlantic strike fleet, the NATO standing naval force in the Atlantic and standing minesweeping forces in the English Channel zone: approximately 25,000 men, as many as 160 ships, craft and auxiliary vessels (including the U.S. multirole carrier "America," the amphibious assault ships "Guadalcanal" and "Inchon," the general purpose assault ships "Saipan" and "Nassau"), more than 250 warplanes and helicopters of the navies of the Unites States, Great Britain, Canada, West Germany, Denmark, Belgium, Norway, the Netherlands, Portugal, and France, as well as U.S., British and Dutch Marine units and subunits.

Overall direction was handled by the supreme commander of NATO Joint Forces, Atlantic, while the force operations were directly under the control of the commander in chief, NATO Joint Forces Eastern Atlantic and Channel, and the commanders of the NATO strike fleet and joint forces in the Baltic straits zone.

The exercise scenario, as reported in the foreign press, was as follows. The "aggressor," launching surprise combat operations on the bloc's northern flank, had seized part of Northern Norway and islands in the Baltic straits zone, had deployed surface and undersea forces in the Norwegian and North seas and had initiated aggressive offensive operations to seize the straits zone and the northern part of the FRG. In the prevailing situation, NATO Joint Forces command authorities were "forced" to reinforce their naval force grouping in the Eastern Atlantic, to land an amphibious assault force and seize a beachhead on the Jutland Peninsula (to support the bringing ashore of reinforcement troops and combat equipment). At the same time naval forces undertook essential measures to hinder further deployment of the "aggressor's" fleet in the Atlantic and North Sea. They commenced combat operations to destroy his surface forces.

Commencement of the exercise was preceded by a preparatory phase, during which the NATO joint naval forces in the Eastern Atlantic were beefed up by redeploying from the East Coast of the United States and Canada warships of these countries. By the beginning of the exercise approximately 30 warships and auxiliary vessels had completed a transatlantic crossing to European waters, organized into a general-purpose carrier force (the carrier "America" with escorts) and an amphibious landing force. Several shore-based patrol and tactical air squadrons were added to the air forces on the bloc's northern flank, as well as Marine air.

As the exercise began, the NATO Striking Fleet, Atlantic assembled west of Ireland, consisting of the general-purpose carrier group (the carrier "America"

with escorts) and an amphibious landing force (the amphibious assault ships "Guadalcanal" and "Inchon," and the general purpose assault ship "Nassau") with U.S. Marine subunits on board. The ships and aircraft of the strike fleet provided protective cover to the amphibious landing force during passage to the northern coast of Scotland and sought to gain superiority in the area of the forthcoming practice amphibious landing. Highly mobile ASW forces deployed in the area of Iceland, the Faeroes, Shetland and Orkney islands, and conducted combat actions to destroy "aggressor" submarines which were penetrating into the Northeastern Atlantic from the Norwegian Sea (see diagram) [not reproduced].

On the morning of 10 September an amphibious assault force was put ashore on the northern coast of Scotland, consisting of two companies of U.S. Marines (by combined mode -- by helicopter from the amphibious assault ship "Guadalcanal" and by landing craft). The landing area was sealed off by surface-ship hunter-killer groups deployed around the Orkney and Shetland islands, ASW was provided by carrier-based aircraft, while close air support was flown by embarked attack and tactical aircraft.

That same day, after rehearsing seizure of a beachhead, the landing forces were reloaded onto the ships of the amphibious landing force, which proceeded to cross into the North Sea. During movement to the objective area the landing force was provided protective cover as follows: on the north -- by the general-purpose carrier group and submarines (deployed along a line running from the Shetland Islands to the southern coast of Norway), on the west and south -- by naval strike and hunter-killer groups plus tactical air.

On 13 September an amphibious landing operation was executed near the port of Esbjerg (Jutland Peninsula), the principal objective of which was seizure of a beachhead for subsequent landing of reinforcement troops arriving from the United States. The landing assault involved the participation of 5000 U.S., British, and Dutch Marines. The landing was accomplished in two waves, by combined mode, onto an unfortified shore: the first wave contained 1000 Marines (carried ashore by landing craft and helicopters operating from the amphibious assault ships "Guadalcanal" and "Inchon"), while the main landing forces came ashore in the second wave (up to 15 September).

The landing forces were engaged by Danish ground troops and tactical aircraft of the 2nd JTAC of NATO joint air forces in Central Europe. Close air support for the assault forces during landing and conduct of offensive combat actions to widen the beachhead was provided by embarked aircraft from the carrier "America," as well as V/STOL aircraft from the general purpose assault ship "Nassau." Artillery support was provided by inshore fire support ships operating on the flanks of the landing area at a distance of up to 10 cable lengths from shore. ASW protection of the landing area and the amphibious warfare ships standing offshore was assigned to surface strike and hunter-killer groups consisting of two to three ships each, while minesweeping support was assigned to the Standing Minesweeper Force, Channel.

The principal efforts of the NATO Strike Fleet, Atlantic were directed toward ensuring safe passage of the amphibious landing force from the U.S. East Coast to the Eastern Atlantic and toward gaining supremacy in the southern part of the

Norwegian Sea and the North Sea in order to execute the amphibious assault operation. Strikes on "aggressor" surface forces were mounted by groups of from four to six aircraft, employing bombs, missiles, and gunfire. As a rule missions were flown during daylight hours.

As in similar exercises of previous years, considerable attention was devoted to working on problems connected with combating submarines which, in the opinion of NATO command authorities, will be the most serious threat to NATO lines of communication in the Atlantic. Therefore they continued improving tactics of employment of ASW forces in searching, tracking and destroying enemy submarines upon leaving naval bases, along deployment routes, and in combat operations areas. Forces employed in performing ASW missions included surface ships, submarines, shore-based patrol aircraft and carrier-based aircraft, operating as homogeneous and composite hunter-killer groups. Initially submarines were detected with the aid of a long-range sonar surveillance system and shore-based patrol aircraft, information from which was forwarded to ASW forces command centers.

Hunter-killer groups (from two to three ships each), deployed along the Iceland ASW line, in the eastern part of the North Sea and in the English Channel, protected strike fleet maneuver areas, landing force routes of movement to the objective area, convoy loading and forming areas, as well as their ASW escorts along routes toward Western European ports. Surface ASW forces worked in close coordination in an operations respect with U.S. British, West German, Danish, and Dutch shore-based naval aircraft. Submarines operated in a position-maneuver mode in areas measuring 30 x 40 nautical miles.

Several convoys containing from 5 to 20 cargo ships and troop transports, as well as from 2 to 6 escort ships, were set up to work on problems of protecting sea lines of communication. The principal convoy escort areas were the North Sea and the English Channel zone. Convoy ASW and AA defense during passage was handled by the zone principle, in an overall aggregate of measures to establish naval control of shipping. Air cover was provided by tactical aircraft operating from airfields in the United Kingdom, West Germany, Denmark, and the Netherlands. Convoys were escorted in conditions of active countermeasures by "aggressor" submarines, surface strike groups, and air.

Particular attention was devoted to antimine support for the operations of carrier, amphibious landing and ASW forces. The standing minesweeper force, channel, as well as British, West German, Danish, Dutch, and French minesweepers were enlisted to perform these tasks. As a rule ships put out from bases and ports and headed to their designated combat areas after port approaches had been swept. The amphibious landing operation on the west coast of the Jutland Peninsula and the northern coast of Scotland was preceded by a reconnaissance sweep (2-3 days prior to commencement of the landing). In geographic areas where hostile minelaying was most probable, ships carrying the most valuable cargoes and convoys ran behind sweeps. In addition considerable importance was attached to placing mine clusters off naval bases and ports, in narrows and on deployment routes of "aggressor" surface forces. Minesweepers operated as elements of minesweeper groups. Minesweeping helicopters equipped with acoustic sweeps were enlisted to perform sweeping operations in coastal areas and in shallow waters.

In the course of the exercise the forces worked extensively on ASW, anti-air, antimissile and anti-surface-craft defense of ships and task forces at sea. Anti-air defense of surface forces, amphibious warfare ships and convoys was handled by escort forces in close coordination with the forces and facilities of the NATO joint air defense system in Europe. Close-in and immediate carrier protection was provided by escort ships at a distance of up to 30 nautical miles and by surface strike and hunter-killer groups assigned to directions of potential threat; long-range--by a multirole nuclear submarine, shore-based patrol aircraft, carrier-based Viking aircraft, and hunter-killer groups. AWACS system E-3A aircraft, as well as radar picket ships moved into forward areas were enlisted for early detection of air targets and for guiding fighters to them. This made it possible to intercept air targets before they reached effective weapon release range.

Logistic support of ships at sea was handled according to the national principle at the naval bases of the Northern European countries and directly in the combat operations areas of surface forces. The ships of the strike fleet were supplied in battle formation from Service Force tankers and other replenishment-at-sea ships. Fuel and supplies as a rule were transferred by the parallel-courses abeam method or vertically (with the assistance of helicopters). Other items rehearsed at the exercise included reconnaissance, organization of command and control of diversified forces and coordination among the different services, and communications, including via satellite systems. Naval forces operated with active utilization of electronic countermeasures, especially during the amphibious landing operations.

The NATO joint naval forces exercise "Northern Wedding-82" was conducted on the basis of a uniform scenario and on the overall background of the series of NATO Joint Forces autumn exercises code-named "Autumn Forge-82." In contrast to counterpart exercises of past years, a smaller number of British warships took part in it, due to the consequences of the Anglo-Argentine conflict.

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PERCEPTIONS, VIEWS, COMMENTS

COMMENTARY ON LEASAT SATELLITE COMMUNICATIONS SYSTEM

Moscow ZARUBEZHNOYE VOYENNOYE OBOZRENIYE in Russian No 1, Jan 83 (signed to press 19 Jan 83) pp 81-85

[Article, published under the heading "Naval Forces," by Capt 3rd Rank B. Azarov and Capt-Lt A. Stefanovich: "Leasat Satellite Communications System"; passages rendered in all capital letters printed in boldface in source; passages highlighted by use of double-spaced words enclosed in slantlines]

[Text] An important role in the U.S. armed forces global command and control system is assigned to satellite communications systems which, in the estimate of U.S. military experts, are capable of providing continuous, flexible control of combat operation in today's war.

As is reported by the foreign press, U.S. naval authorities signed a contract with the U.S. company Hughes Aircraft, pursuant to which development of the Leasat (Leased Satellite) satellite communications system began in October 1978. The Navy will lease this system from the U.S. Department of Defense and is to coordinate operational employment of artificial earth satellites for the branches of service.

In accordance with the program, Leasat will involve four satellites in stationary orbit, a specialized command and control complex, and user radio stations, presently being employed in the Marisat and Fleetsatcom satellite communications systems.

THE LEASAT SATELLITE is a cylinder (4.2 meters in diameter), with a cluster of booster motors with fuel tanks at the center, and an antenna array positioned toward the top.

The booster motor cluster includes a "perigee" and "apogee" propulstion unit, which are designed to boost the satellite into stationary orbit after it is placed in an intermediate circular orbit (altitude 288 km, inclination 28.6°) by a space shuttle. At the moment the satellite separates from the space shuttle and crosses the plane of the equator, the solid-fuel perigee motor fires, boosting the satellite into an elliptical intermediate orbit and, when the fuel is exhausted, separates from it. After the liquid-fuel apogee motor fires, the apogee of the intermediate orbit should increase to 36,000 km, and the satellite will be put into a stationary orbit. Displacement of the satellite in stationary orbit to the desired positioning location, holding in that position, as well as

transfer if necessary to another position in orbit will be handled by 12 axial thrusters.

The antenna array includes two helical antennas, a horn antenna, and an omnidirectional antenna. The helical antennas (receiving and transmitting), with radiating elements 3.6 m in length, are designed to operate in the decimeter band, 240-400 MHz. Fleet multiple-call transmission signals, transmitted from a shore station to the satellite in the centimeter band (7250-7300 and 7975-8025 MHz), will be received by its horn antenna, frequency converted in a repeater, and retransmitted to ships and other installations in the decimeter band. This antenna is also used for transmitting telemetry information from the satellite to ground control stations.

The omnidirectional antenna receives commands and is used in operating the trajectory measurement and radiotelemetry equipment.

The antenna array is oriented toward the Earth with the aid of special sensors and a counterrotation system. The satellite is stabilized by rotation of the satellite body.

The satellite carries 12 decimeter-band repeaters, 6 of which are for telephone communications, 5 for teletype, plus 1 wideband repeater.

A solar battery is used to power all satellite systems, with a nickel-cadmium battery providing power when the satellite enters the Earth's shadow.

THE SPECIALIZED CONTROL COMPLEX will control the satellites, monitor trajectory and telemetry as well as the state of on-board systems. It will include the following: a control center, 4 fixed-site and 2 mobile control stations, two-way communication links between the center and the control stations, as well as between the control center and the U.S. Navy's long-distance communications command center (Figure 1) [not reproduced].

All stations and the control center are to be provided with equipment to encode telemetry and command information. Foreign experts note that Leasat will be the first satellite communications system in which commands, telemetry data and trajectory measurements will be fully encoded. Each of the four stations will also maintain communications with the control center by secure radio communications channels.

The fixed-site control stations will be located on the island of Guam, and in the cities of Stockton, California and Norfolk, Virginia.

Two fixed-site control stations (on the island of Guam and in the city of Norfolk) will handle telemetry and transmit commands during launch and orbit change. They will also be used as backup facilities. Siting of mobile control stations at the indicated locations ensures optimal conditions for observing the satellites as they are boosted into orbit, as well as at their operating locations.

U.S. AIR FORCE, NAVY AND MARINE MOBILE AND FIXED-SITE TRANSMITTER-RECEIVERS, as is reported by the U.S. press, will use the Leasat satellite communications

system. Principal transceiver equipment includes AN/PSC-1, AN/MSC-65, AN/SSR-1, AN/WSC-3, and AN/ARC-143B.

The AN/PSC-1 /portable transceiver/ provides communications via repeater satellites and makes it possible to work directly with ground and airborne radios in the decimeter band. Transmitter power is 35 watts when operating via a repeater satellite, and 2 watts in communication with ground stations. Its antenna (6 db gain) is in the form of a rectangular mesh reflector with a helical radiating element. This transceiver employs a 28 cm whip antenna for communications with conventional radio equipment.

Telephone signals, converted into digital form, are transmitted at a rate of 16 kbit/s, while data is transmitted at 300 bit/s. Information is received and transmitted in the 225-400 MHz band at fixed frequencies with 5 kHz separation. The transceiver weighs about 11 kilograms together with its battery power supply (provides continuous 12-hour operation). According to reports in the foreign press, a modified version is currently being developed for mobile installations.

/The AN/MSC-65 mobile single-channel satellite communications station/ operates in half-duplex mode in the decimeter band. It employs an antenna with a radiation pattern in the form of a hemisphere or a directional pattern with a 9 db gain. Transmitter output power is approximately 100 watts.

In contrast to existing satellite communications systems, in which each channel has a specific function, in Leasat a channel with a 25 kHz bandwidth can be used for operation of several radio nets (each has a specific list of users). For these purposes it is planned to equip transceivers employing this system with a DAMA (Demand Assigned Multiple Access) unit with a built-in modem. Employment of this unit will make it possible to apply the principle of time-division multiplexing with channels presented on demand, substantially to increase the traffic capacity of the above-mentioned space communications channels, and to transmit information at a varying rate, depending on user requirements (information will be transmitted by each user within the time interval determined by the control station).

The shore control station is equipped with an operator's terminal device and a semiautomatic system which controls user access to the communications net. It receives and processes user requests for access to the net, interrupts user operation in the radio channel when a request is received to transmit information with a higher priority, regulates system traffic capacity, removing loads from more heavily-loaded channels, etc. Foreign experts note that with equal traffic capacity, the Leasat system will require a smaller number of communication channels than the existing Fleetsatcom satellite communications system.

A DAMA unit will make it possible to time-division multiplex several radio channels with transmission rates of 75-4800 bits per second into a single transmission with a high rate of 2400-3200 bits per second.

Since the first sets of DAMA equipment will operate in semiautomatic mode and require operator participation in controlling channel distribution and communication nets, initially, according to reports in the foreign press, static channel distribution will be primarily utilized in the Leasat system, whereby channels

with a 25 kHz bandwidth, will be used for the operation of specific radio nets with transmission rates of 75, 300, and 2400 bit/s.

Subsequently, with adoption of fully automated DAMA equipment and acquisition of experience by the control station operators, continuous channel redistribution will be performed in this system, to provide real-time radio communications. Plans call for proceeding with utilization of this equipment when the Leasat satsatellite system comes on-line.

/The AN/SSR-1 shipboard radio set/ (240-340 MHz band) is intended only for receiving fleet multiple-call transmissions. Its antenna system includes four antennas (hemispherical radiation patterns), positioned on both sides of the ship's superstructure.

/The AN/WSC-3 shipboard radio set/ (weight 64 kg) and the /AN/ARC-143B aircraft transceiver/ (weight 8 kg) have identical operating modes (225-400 MHz band). The output power of both is approximately 1000 watts. The built-in modem of the first of these makes it possible to select a data transmission rate between 75 and 9600 bit/s, while in the latter it depends on the external modem. Both sets employ amplitude, frequency, phase, and relative phase modulation.

Characteristics of Leasat Satellite Communications System Channels

Type of Channel	Number	Channel bandwidth, kHz	Repeater Power, dbwt
Repeater	6	25	26
Wideband	1	500	28
Narrow-band	5	5	16.5
Multiple-call transmissions	1	5	26

On some ships as many as four radio sets are mounted on the same rack frame for receiving and transmitting data in multichannel mode.

/The AN/FSC-79 shore satellite communications station/ (Figure 2)[not reproduced] is designed primarily for sending multiple-call fleet transmissions. In addition, it is designed to be used in the specialized Leasat control system.

According to information in the foreign press, installation of stations of this type has been completed at the main communications centers of the U.S. Navy's Atlantic, Mediterranean, Western Pacific, and Eastern Pacific communications zones communications centers, located respectively in the cities of Norfolk, Virginia, and Naples, Italy, on the island of Guam, on the island [sic] of Wahiawa (Hawaiian Islands) and in the city of Stockton, California.

Each satellite repeater transmits information on 13 communications channels (see table above).

The fleet multiple-call transmissions channel is similar in characteristics to the counterpart channel in the Fleetsatcom system. A group signal transmitted

on this channel consists of time-division multiplexed, phase-shift key signals of 15 telegraph and 1 synchronizing channel. The transmission rate of a telegraph signal is 75 bit/s, and a group signal -- 1200.

A wideband channel (bandwidth 500 kHz) is subdivided into 20 subcarrier frequency channels, which are to be employed for Navy and other Leasat users equipped with automated information exchange systems.

Each of the five narrow-band channels, with a 5 kHz bandwidth, provides radiocommunications to one user.

Leasat system shipboard terminals, other than the DAMA time-division equipment, will also include RRU (Remote Request Unit) equipment, installed in the radio room, units which are designed for calling and establishing communications with one of the control stations (Figure 3) [not reproduced]. By pressing a special button on the remote request unit, the user sends a request for access to the system in the form of a microprocessor-generated format message. Upon arriving at the station it is processed, and a special microprocessor-generated control signal is produced, determining the access sequence. It is noted in the foreign press that employment of Leasat will make it possible to shorten request processing time from several minutes (with nonautomatic processing) to several seconds. The DAMA equipment is directly coupled to the automated information exchange system for establishing communications with the control station and subsequent transmission of information through the channels of the U.S. Department of Defense's Autodyne digital communications system.

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PERCEPTIONS, VIEWS, COMMENTS

COMMENTARY ON U.S. 'MILITARY DOCTRINE'

Moscow ZARUBEZHNOYE VOYENNOYE OBOZRENIYE in Russian No 4, Apr 83 (signed to press 11 Apr 83) pp 7-12

[Article by Capt 1st Rank A. Karemov: "The Military Doctrine of the USA"]

[Text] Military doctrine is the system of views adopted in a state at a given time with respect to the objectives and the nature of a possible war and to the preparation of the nation and the armed forces for the war, as well as to the methods to be employed for conducting it. The term "military doctrine" is encountered fairly rarely in the American press and is identified with the concepts "military policy," "military strategy" and "great strategy." It is sometimes applied only to a certain specific area of military affairs--"air," "naval" or "nuclear" doctrines, as an example. All of this does not mean that military doctrine does not objectively exist in the USA, however. Its substance is revealed by numerous official documents and established strategic military concepts, as well as by the practical activities of the nation's military-political leadership. It defines the essence and the focus of the nation's preparation as a whole and of the armed forces in particular for the conduct of wars varying in their nature and their scale, depending upon the enemy against which the war is being waged.

Imperialism, primarily American imperialism, has in recent years stepped up its aggressive activities in the area of ideology and material preparations for a new world war, although even before that, world reaction had not abandoned its main goal of first weakening and then destroying the socialist system.

American military doctrine is based on the following postulates, developed by the "founders" of the USA: military force is the main and ultimate means of settling foreign political disputes, the "arbitrator of the last instance"; the United States is not an ordinary state, but an exceptional one, the like of which has never before existed on earth. A. Hamilton, one of its creators, maintained the following: "Only if we are strong can we make a choice between war and peace."

From the very beginning of American militarism, its proponents have typically attempted to conceal the real objective of their efforts by inventing various terms which obscure or destort the essence of the matter. While spreading the provocative myth about a "Soviet military threat," for example, Pentagon officials extol in every way possible the "reasonableness" and even the "humaneness" of the U.S. military doctrine. The hypocracy of such claims has been repeatedly

exposed by the publication in the press of various plans for destroying the Soviet Union in a nuclear war: "Totality" (1945), "Charioteer" and "Fleetwood" (1948) and "Dropshot" (1949). The latter plan, for example, called for a massive nuclear strike against the USSR's industrial and administrative and political centers, using 300 atomic bombs, and for the subsequent occupation of the territories of Eastern European states and the Soviet Union by armed forces of the USA and NATO.

The substance of the strategies and strategic concepts characterizing the military doctrine of the USA during a certain period are reviewed from time to time. This depends mainly upon the balance of power in the world and the development of weapons systems. The aggressive nature of the doctrine does not change, however.

The "massive retaliation" strategy was developed in the United States at the beginning of the 1950s. It was based on nuclear superiority and called for conducting nothing but total nuclear war against the USSR and the other socialist commonwealth nations. J.F. Dulles, U.S. secretary of state at the time, declared boastfully that "the United States must be prepared to carry out a massive nuclear attack where and when it considers this to be necessary." The development of our own nuclear weapons and means of delivery in the Soviet Union, however, took away its nuclear monopoly and deprived that strategy of its foundation.

The "flexible response" strategy was adopted at the beginning of the 1960s as a result of the altered balance of power in the world. It retained the aggressive essence of its predecessor and was based on the policy of operating "from a position of strength," but it entailed the preparation and conduct of various types of wars--world wars and local wars, nuclear and conventional, large and small. It called for the "measured" employment of nuclear force consistent "with the scale of the danger arising to the interests of the USA." This meant that the "massive retaliation" strategy had not been entirely replaced but remained an integral part of the new strategy. The latter called for maintaining powerful armed forces in the United States capable of conducting two large-scale wars (in Europe and the Far East) jointly with its allies, while simultaneously taking part in one local conflict (the so-called "two-and-a-half-wars" concept).

The "flexible response" strategy was adopted by the NATO bloc in 1967 as the basis for its coalitional military strategy. The continued alteration of the balance of power in the world, and not beneficial for the USA, resulted in a reconsideration of the "flexible response" strategy, which, in the assessment of the Americal leadership, no longer conformed to the spirit of the time, and with the passive nature it was claimed to have, could not assure the achievement of American imperialism's global aspirations. Furthermore, it did not take into account the course being pursued by China's leaders, which also influenced the organizational development and the strategic deployment of the armed forces. It was replaced by the "realistic deterrent" strategy in 1971, which, while acknowledging the real limitations of Americal military power in the situation of a balance of strategic power existing between the USA and the USSR, called for vigorous and flexible actions to achieve the USA's political goals "from a position of strength" by integrating the military strength of the United States and that of its allies to create military superiority.

The basic principles of the "realistic deterrent" strategy actually developed in the new situation the main concept of the former strategy--the need for flexible,

"measured" and at the same time, more decisive, employment of force in the international arena, closer coordination of operations by the armed forces with political-economic and ideological actions, increased attention to talks conducted with the Soviet Union for purposes of "achieving mutual restraint" and obtaining unilateral advantages. It should be noted that China was no longer regarded as one of the main enemies.

This strategy called for preparations for a strategic (total) nuclear war and "limited" wars (nuclear and conventional), including local wars. It was planned to develop the American armed forces so that they would be capable of conducting "one and a half wars" simultaneously--one large war in Europe and one local war in any part of the world. It called for the latter to be conducted mainly with the forces of the USA's allies, providing them with technical assistance, naval and air support.

The Reagan Administration assessed the "realistic deterrent" strategy as being inadequately decisive, not relying completely upon the strategic deterrent forces and having a number of weaknesses. Specifically, it did not give adequate attention to the combining of efforts by all the U.S. allies to undermine the Soviet Union's growing influence in the world and attached too little importance to the role of general purpose forces, which could conduct a war not just in Europe, but in other parts of the world as well.

Through the fault of imperialist circles, the military-political situation in the world became significantly more complicated at the very end of the 1970s and the very beginning of the 1980s. The American administration officially declared many areas of the planet to be within the sphere of the United States' "vital interests." Prime importance was attached to the need to "build up its armed forces" and eliminate shortcomings in the military organizational development and in views on the conduct of a war.

The USA's comtemporary doctrine continues to be based on the idea of American imperialism's achievement of world hegemony. Its ideological basis is the most blatant of anti-communism and anti-Sovietism. The political side of the military doctrine is characterized by the following foreign policy goals: to weaken the USSR and other Warsaw Pact nations and to separate certain states from the socialist system; to achieve world domination for the USA by eliminating socialism as a system; to combat the revolutionary and national liberation movement so as to prevent the emergence of new nations with a socialist orientation; to impose subjugating political and financial and economic terms and treaties upon the developing states, permitting the capitalist nations to syphon off their raw materials unhindered; and to thoroughly unite the allies under U.S. aegis.

The military-technical aspect of the doctrine calls for the creation of superiority in forces and equipment adequate for the successful conduct of wars on various scales and of various kinds, the constant retention of military-technical superiority for the armed forces of the USA and its allies, especially with respect to the latest weapons systems, the accelerated build-up of existing groupings of armed forces and the creation of new ones in various theaters of military operations by transferring strategic reserves, and expansion of the capabilities of the military-industrial complex with respect to the initiation of large-scale weapons production

during the period of immediate preparations for a war and during the war, when as much as 50% of the gross national product may be allocated for military purposes. In addition, a trend has developed toward the multiple-option employment of strategic nuclear forces and a search for methods of conducting a war, which would reduce the risk of destroying the United States itself. Greater and greater stress is being laid upon the conduct of a "limited" nuclear war, the preparation and conduct of a conventional war, including a total war, and on frightening and intimidating the Soviet Union and the other socialist commonwealth nations.

These are precisely the issues which comprise the essence of the new "direct confrontation" strategy adopted in 1981. According to Defense Secretary C. Weinberger, it calls for "direct confrontation" with the Soviet Union, which has been officially declared to be the "main enemy," both globally and regionally. The orientation toward this confrontation "must be the dominant consideration" in the development and build-up of the Americal armed forces and armaments.

The "direct confrontation" strategy, which comprises the basis of the present military doctrine, calls for the resolute employment of military strength as a means of achieving superiority over the USSR and world domination in the international arena and of protecting the "vital interests" of the USA in various parts of the world, including control over the sources of strategic raw materials and energy resources in the developing and nonaligned nations.

The political part of the doctrine continues to be based on the three principles of American imperialism: "strength," "partnership" and "talks." The first principle, however, now calls for establishing not simply U.S. military superiority over the Soviet Union, but "indisputable military superiority" in the fields of both nuclear and conventional weapons and using this as the basis for "restoring the Unites States' leadership role in the world as a powerful, determined and reliable state." The "partnership" now takes on the features of closer strategic cooperation and determines the nature of the USA's interaction with its allies in all areas of the planet where the "vital" interests of the West are concerned. In the first place, it is planned to combine the efforts of the three centers of imperialism (the USA, Western Europe and Japan) in a struggle against the growing influence of the Soviet Union and the other socialist commonwealth nations. The "talks" principle is assigned to last place and calls for the conduct of talks both with the enemy and with allies only from a "position of strength." The most acceptable means of achieving the goals outlined in the doctrine, as the American press stresses, are the following: a demonstration of strength (presence, intimidation, interference, confrontation), the employment of military force (war), economic pressure, the overthrowing or elimination of heads of state unsuitable to the Americans, especially in Latin America, and other so-called "indirect actions."

The "direct confrontation" strategy defines two main types of possible wars: total and limited (the theory being that they can involve nuclear weapons or conventional weapons alone). Both types would be global wars conducted on a coalitional basis. Acknowledgement of the possibility of conducting a total war involving only conventional weapons is a fundamentally new concept in American military doctrine since the war. In the views of Americal military theoreticians, a limited war could be a nuclear war in the theater of a war (in Europe, for

example), a conventional war in the theater of a war (in Europe or the Far East) or in a separate theater of military operations or an area of a theater of military operations (local). The first two would be conducted by a coalition, drawing upon all available forces and means. Local wars could be conducted by nations of the West for areas rich in raw materials or strategically important areas in the Near and Middle East, in Africa and Latin America, as well as for suppressing a national liberation movement.

One of the most important principles underlying the USA's contemporary military doctrine is the forced preparation of the material base for unleashing and conducting wars on various scales and of various intensities. In addition, the Reagan Administration is following both concepts previously in force and those developed at its instruction by the present military advisers: "total force," "strategic sufficiency," "active counteraction," "geographic escalation" and so forth.

The "active counteraction" concept covers various options for the use of the strategic nuclear forces--from "limited" nuclear strikes against individual targets and objectives in a specific area to massed nuclear attacks against an entire system of targets within the Soviet Union and in other countries of the socialist commonwealth (main groupings of forces, agencies of political and military leadership, extremely important industrial, transportation and communication facilities, large administrative centers and so forth).

The most likely version of the "limited" nuclear war is considered to be a war fought far from U.S. territory, primarily in Europe. The assumption is that in this case the United States will avoid the devastating effects of a retaliatory attack. This is precisely the reason for the Reagan Administration's determined effort to deploy in the Western European nations of the NATO bloc new medium-range missile launchers capable of destroying targets practically anywhere in the European part of the USSR. In this case, according to the foreign experts, NATO's armed forces will be able to achieve their main objectives without using American strategic nuclear weapons. And by limiting the nuclear war to Europe, the Americans hope to avoid a retaliatory strike against targets within the USA.

The organizational development of the strategic offensive forces is being carried out in accordance with the "strategic sufficiency" and "substantial equivalency" concepts, which call for a significant build-up in the strength of the strategic offensive forces, constant military-technical superiority for the USA in new types of weaponry, and a first-strike capability.

The American military-political leadership is inclined to believe that the increased effectiveness of weapons systems today will make it possible for the armed forces to accomplish their assigned missions and achieve the objectives of a war, using only conventional weapons. The current military doctrine of the USA therefore devotes great attention to preparing the armed forces and the nation to conduct a war without the use of nuclear weapons. It is believed that a war involving only conventional weapons will be a long one and will require large human reserves and stockpiles of materiel.

Military organizational development and planning are based on preparation of the general purpose forces for a prolonged, total, conventional war against the USSR

and its allies simultaneously in several theaters of war. Specifically, the so-called "geographic, or horizontal, escalation" concept places special stress on the capability of the armed forces of the USA and its allies for simultaneously conducting wars of various scales on all parts of the earth and remote from each other (in Europe, in the Near and Middle East, in Southeast Asia, in Africa and Central America).

Along with military operations, this concept calls for political and economic actions, for "punishing" the Soviet Union and the other socialist commonwealth nations for infringing upon the interests of the USA. Furthermore, it is considered expedient to carry out an attack against the enemy not just where it has created a threat to the interests of the USA and its allies, but also where it is weak and most vulnerable.

In light of the requirements made by the "direct confrontation" strategy, the Reagan Administration is actively implementing its plans for updating the armed forces. In the area of modernizing the strategic forces, numerous measures are planned for the next few years: modernizing the strategic bombers (in the mid-1980s it is planned to provide the forces with the new B-1B strategic bomber, to complete the outfitting of the B-52 bombers with cruise missiles and to continue development of the new Stealth strategic bomber, which is difficult to detect with modern air-defense facilities); arming the ballistic missile submarines with the new Trident-2 ballistic missiles; improving the firing (guidance) accuracy and the survivability of ground-based intercontenental ball stic missiles by deploying the MX missiles; and perfecting the control and communication system, primarily for purposes of giving them greater survivability in a nuclear war. Total military outlays for the USA during the period 1983-1987 will excede 1.6 trillion dollars.

It is planned to provide the U.S. ground forces with nuclear artillery, neutron ammunition (for the 155mm and 203.2mm guns and Lance missiles) and chemical ammunition. It is planned to rearm the forces with qualitatively new weapons systems (the PLSS, the Assault-Breaker and other reconnaissance and assault systems), to improve their organization-and-establishment structure, as well as the mobilization and strategic deployment system, and to enhance their combat readiness. In addition, it is planned to provide the forces with large quantities of new types of tanks, ASW and antiaircraft means, in order to further increase their combat capabilities. The combat capability of the Tactical Air Force will be increased by outfitting it with the new and more effective F-15, F-16 and A-10 aircraft.

The so-called "ocean strategy" has a special place in the military doctrine. It calls for the use of naval power as one of the main means of implementing the American administration's foreign policy course. This concept essentially involves "achieving a dominant position for the U.S. Navy at sea up to the next century." U.S. Navy Secretary Lehman, who is called the rising "star" of militaristic circles, has openly called for "turning the Soviets into a world island so that we (that is, the Americans--A.K.) can be masters of the rest of the world."

It is planned to allocate 96 billion dollars to bolster the naval forces, which will be spent to build 133 combat ships. This includes six Ohio class nuclear missile submarines carrying Trident missiles, two Nimitz class nuclear-powered, multi-purpose aircraft carriers, 17 Los Angeles class nuclear-powered submarines

and 18 guided missile cruisers, including one nuclear-powered cruiser. In addition, it is planned to demothball three battleships and arm them with Tomahawk cruise missiles. They are to become the nucleus of the naval assault groups, on an equal with the aircraft-carriers. It is planned to build up the total fleet of the U.S. Navy from the present 490 combat vessels to 600 by the end of the current decade. American strategists are calling for the redistribution of the main forces in the Atlantic and Pacific Fleets with a view to providing "effective protection of the vital interests of the USA not just in the Atlantic and Pacific Oceans, but in the Indian Ocean area as well."

In 1980 the Pentagon created the Rapid Deployment Force, which consists of army, navy, air force and marine units and formations and with a total numerical strength of around 250,000 men. It was created for purposes of conducting limited wars in areas remote from the United States of America. The foreign military experts consider these troops to be the most combat-ready and sufficiently mobile. They can be used in various areas of the planet, where "there emerges a threat to the vital interests of the USA." The most likely areas of their combat employment are the oil-rich Near and Middle East. A new central command of the U.S. armed forces (CENTCOM) began functioning in the Rapid Deployment Force in January of 1983. Its "zone of responsibility" includes the territories of 19 states in Southwest Asia and Northeast Africa, as well as part of the Indian Ocean, including the Persian Gulf and the Red Sea.

In general, the U.S. military doctrine, which is presently based on the "direct confrontation" strategy, places the main stress in the resolution of international problems on the threat of using or the actual use of armed forces as the most important argument for achieving American imperialism's hegemonistic foreign policy ambitions, as well as for achieving military superiority over the USSR and all the socialist commonwealth nations. As Comrade Yu.V. Andropov, general secretary of the CPSU Central Committee, stressed at the formal meeting of the CPSU Central Committee, the USSR Supreme Soviet and the RSFSR Supreme Soviet dedicated to the 60th anniversary of the founding of the USSR, however, such a policy is hopeless and can only increase the danger of war.

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PERCEPTIONS, VIEWS, COMMENTS

COMMENTARY ON U.S. 'IMPERIALISM'

Moscow ZARUBEZHNOYE VOYENNOYE OBOZRENIYE in Russian No 4, Apr 83 (signed to press 11 Apr 83) pp 16-19

[Article by Col A. Solov'yev: "The Vicious Nature of American Imperialism"]

[Text] Capitalism is the last antagonistic social order. Along with the unprecedented development of its production forces, it is taking man's exploitation of man to the highest limits. All forms of coercion, from armed force to spiritual pressure, are inherent in it. This is most graphically manifested in the USA, considered in the West to be the most highly developed and "free" capitalist nation. V.I. Lenin stressed back in his time that it is precisely in America where "terror and the dictatorship of the bourgeoise in fact dominate," where "internationalists are lynched" and the workers' movement is suppressed with "ruthless viciousness" ("Poln. sobr. soch."[Complete Collected Works], Vol 37, pp 496, 216-217; Vol 39, p 83).

Today's U.S. leadership has inherited in its entirety its predecessors' policy of robbery and plunder. What is more, the policy has become even more crude, aggressive and treacherous. Since the second half of the 1970s, and especially after the republican administration led by Reagan took over the helm of state control, an orientation toward all-round expansion of its sphere of domination and influence, toward the establishment of its hegemony in world affairs, has become more and more clearly defined in the American foreign policy course. And since real socialism is the main obstacle to the implementation of these adventuristic schemes, the cutting edge of the USA's aggressive policy has been directed primarily against socialism, and anti-communism and anti-Sovietism have been made the foundation of that policy. The CPSU Central Committee's Accountability Report to the 26th party congress stated that the United States is attempting "to attain the unattainable--to place an obstacle onto the path of progressive change in the world, to regain its role as master of the destinies of peoples."

How does Washington conduct its policy of plunder and blackmail? What methods are employed by militaristic circles of the Pentagon and NATO to achieve their canabilistic objectives? What role does the Central Intelligence Agency (CIA) play in this policy? These and many other questions pertaining to the contemporary international situation are answered in the book "Krovavyye sledy amerikanskogo imperializma"[The Bloody Tracks of American Imperialism] recently published by the "Mysl'" publishing house. The authors of the collection, compiled from materials published in the Soviet press, are writers, scholars and journalists who are specialists in international affairs.

The hegemonistic course pursued by the USA, as the book makes clear, was developed under the influence of the most reactionary, adventuristic and militant circles, whose hatred for communism has taken over their common sense. The book convincingly demonstrates the fact that this course is the product of joint efforts by the American monopolies, the military and political reactionaries, attempting by every possible means to halt the development of events in the world, which is not going well for imperialism, and to destroy the strategic military balance existing between the USA and the USSR.

The contemporary version of the nation's hegemonistic foreign policy course has a number of specific features. Its main feature, the authors stress, is a drastic increase in its military preparations, an attempt to create a military capability which would make it possible to realize plans for "protecting the vital interests of the USA" in any part of the world and by any means, including the use of armed force. All military, economic, political and ideological resources are being mobilized for this purpose, and enormous efforts are being made to involve the entire capitalist world in the accomplishment of these tasks.

An unprecedented arms race is presently underway in the United States. It calls for an enormous growth in allocations for the development of the latest types of weapons, the production of aircraft, missiles and armored equipment, the accelerated formation of interventionist forces of the recently created Central Command in the USA (CENTCOM), an increase in the numerical strength of the armed forces and improvement of the training for the personel. The collection presents numerous irrefutable facts and figures illustrating this. For example, it is planned to spend more than 1.6 trillion dollars for militaristic purposes during the 5-year period 1983-1987.

Special stress is laid on the intensive outfitting of the armed forces with nuclear missiles. And this is occurring at time when the USA has 1,053 silo launchers for land-based intercontinental ballistic missiles, 672 ballistic on ballistic missile submarines, around 570 heavy and 66 medium strategic bombers.

The conduct of a so-called "limited" nuclear war was legalized when the "direct confrontation" strategy came into being in the USA. Washington is striving persistently to get American medium-range nuclear missiles deployed in the Western European nations. The production of neutron ammunition has been set up. Attempts are being made to extend the arms race to outer space.

The United States is stockpiling enormous quantities of chemical weapons. At the beginning of 1983 an international symposium was held to study the consequences of the Pentagon's employment of toxic substances during the aggression against Vietnam. The meeting brought out many new cases of monstrous crimes against mankind. Around 100,000 tons of herbicides and defoliants, mainly "Agent Orange," were spread by special U.S. air subunits over South Vietnam. This was a barbarian experiment, as a result of which more than 2 million people were poisoned, 3,500 of them dying immediately. More than 43% of the woods and cultivated land was destroyed, and farm animals were killed off. The American military and its backers are not troubled by their conscience, however. They continue to add chemical weapons to the arsenals and to create new types of these weapons.

Leading circles in the USA employ a broad range of means for implementing their imperial schemes. Ordinarily, after selecting a certain state as their next victime, they carefully study its economic and its ideological-political life. They find its vulnerable spots and attempt to overthrow the unsuitable government by means of economic, political, psychological or even physical terror.

The most tragic example of this is the counterrevolutionary action carried out by American imperialism in Chile. U.S. intelligence services provoked a severe crisis situation in the nation and created an active counterrevolutionary nucleus there, which seized power and took reprisals against the democratic forces.

The present administration has an especially terroristic stamp. It promotes a cult of the iron fist in both domestic and foreign policy. The book's authors cite numerous examples to convincingly demonstrate that this policy is being implemented. They include the preparation of plans for invading Cuba and Nicaragua, undisguised assistance to the extremists in Solidarity, which prepared a counterrevolutionary upheaval in Poland, the continuing undeclared war against the peoples of the governments of Afghanistan and Angola, patronage of the Pol Pot henchmen, support for the bloody Salvadoran junta and international acts of terrorism by Israel's zionists, connivance with the raiders from the American Jewish Defense League, and so forth.

The clandestine diversionary actions perpetrated by the USA in Asia, Africa and Latin America have recently assumed even greater scale. Expansion of the international subversive work of the transnational corporations, ordinarily carried out in close coordination with the CIA, is a new development. Almost any country struggling for its national independence becomes the target of an imperialist conspiracy. This is also true of any capitalist state in which there is a growing workers' movement against capitalism. Writer Ernst Genry cites in the book numerous facts attesting to the system of American global terrorism. According to the American magazine U.S. NEWS AND WORLD REPORT, the CIA conducted around 900 large clandestine operations against individual "undesirables" and entire governments between 1961 and 1976 alone. It has ordinarily operated through intermediaries, through foreign agents who claim to be involved in the affairs in their own interest. This is precisely how agents of the USA's international police force have physically eliminated many national leaders struggling for the freedom of their countries. Solomon Bandaranaika, Patrice Lumumba, Salvador Allende, Amilkar Kabral and many other glorious sons and daughters of their peoples were felled by the hands of imperialist hirelings.

American imperialism is now the main bulwark of terrorist dictatorships throughout the world and the main center of international terror and violence in the struggle against nations defending their right to independent development. The USA does not spare the means to help the reactionary, anti-popular regimes of South Korea, Chile and Salvador. Military cooperation is expanding between Washington and Pretoria. It is increasingly taking on the characteristics of a military conspiracy against the national liberation movements of South Africa. Direct investments by American banks in the economy of the Republic of South Africa have reached 2 billion dollars. A stream of gold pours into the pockets of Israel's zionist bosses, butchers of the Palestinian and other Arab peoples.

Militarists of the United States are doing everything possible to increase their immediate presence in the areas where they have their aggressive claims. The mission of "protecting the interests" of the USA is assigned to 2,500 bases and various military installations, where more than 500,000 American servicemen are stationed. Doing everything possible to strengthen and expand the role it has assumed as international policeman, Washington has worked our a plan for the accelerated build-up of its military strength in Western Europe, the Far East, the Indian Ocean and the Near East area. The creation of a new U.S. central command (CENTCOM) was recently announced. Its zone of operation includes 19 Asian and African states. What arrogance! Washington highhandedly spreads its "cloak" over an enormous area located thousands of miles from the American shores.

The facts indicate that the USA is hatching up plans for direct interference in the internal affairs of the capitalist nations of Western Europe, in case a severe political crisis develops there. One government letter to American subunits stationed on the territory of America's allies orders them to assume the role of policeman in case of "increased tensions." In accordance with this letter, they "have the right to occupy any area and any site which they consider essential to the performance of their assigned missions."

Capitalism truly does not stop at any sort of crime, when "its interests are concerned." If we remove the euphemistic camouflage from the political system of the USA, it is not a bit better than the despotic anti-popular regimes which gave birth to Pinochet and Pol Pot. Of what worth is the "civilized side" of the Washington politicians, who openly declare that it is necessary to make intensive preparations for a new world war, that thermonuclear weapons could possible be used in it?

The book draws the conclusion that American imperialism has long turned naturally to the aggravation of international tensions as a means of intimidating peace-loving peoples. Today, however, when there is a new balance of power in the world, when the socialist commonwealth has a reliable defense capability for repelling any claims to global domination, attempts to establish "peace on American terms" will have no success. They are totally without promise.

The Soviet Union and its allies are countering the USA's dangerous, aggressive course with a thoroughly considered peace-loving policy aimed at the all-round improvement of the international situation. A realistic way out of the current complex situation was described in decisions coming out of the 26th CPSU Congress, which advanced a program of measures with a common goal--to free mankind of the danger of a nuclear war, to preserve peace on earth. The unvarying nature of this course was discussed by Comrade Yu.V. Andropov, general secretary of the CPSU Central Committee, in his report at the November 1982 Plenum of the CPSU Central Committee and at the formal meeting in the Kremlin dedicated to the 60th anniversary of the founding of the USSR.

The book "Krovavyye sledy amerikanskogo imperializma" exposes the plans and actions of the international terrorists--the assault groups of U.S. imperialists. It teaches us to be vigilant, helps us to assess more thoroughly the contemporary international situation and calls upon us to struggle more persistently for peace and to strengthen our homeland's defense capability.

11499
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U.S. ARMY WEAPONRY EXAMINED

Moscow ZARUBEZHNOYE VOYENNOYE OBOZRENIYE in Russian No 4, Apr 83 (signed to press 11 Apr 83) pp 33-39

[Article by Eng-Lt Col N. Fomich: "The U.S. Army's Weaponry"]

[Text] In an attempt to achieve world domination, the U.S. military-political leadership has begun a new phase in the arms race and is modernizing its armed forces. Along with the strategic nuclear forces, an important role is assigned to the ground forces in the implementation of Washington's hegemonistic aspirations. They number more than 790,000 men. Their effective combat strength includes 16 divisions: four tank divisions, six mechanized, four infantry, one airborne and one airmobile division. While constantly perfecting the organization-and-establishment structure of the ground forces to improve their combat capabilities, the U.S. army's command is simultaneously carrying out extensive measures to outfit them with the latest models of weapons and combat equipment. Great stress is placed on the creation of improved weapons incorporating the latest achievement of science and technology. Considerable amounts of money are allocated for these purposes each year.

The U.S. ground forces have the following small arms (Table 1): the 11.43mm M1911A1 Colt pistol, the 11.43mm M3A1 sub-machine gun (still in use as the tankman's personal weapon), the 7.62mm M14 rifle (there are around 740,00 of these, and their production was halted in 1964), the 5.56mm M16A1 automatic rifle, the 7-62mm M60 general-purpose machine gun and the 12.7mm M2HB Browning machine gun.

At the beginning of the 1980s it was decided to replace the M1911A1 Colt pistol (of which there were around 420,000 in the armed forces) and the 9.6mm revolvers (136,000) with a 9mm pistol under development (index SM9). This project was canceled by the Pentagon in 1982, however.

The 5.56mm (Minimi) machine gun developed by the Belgian FN company and designated the M249 (Fig. 1) in the USA, has been adopted as a partial replacement for the M16A1 automatic rifles in use in the infantry. The foreign press notes that tests have shown it to be a simple weapon with adequate reliability. Initially, it is planned to provide the ground forces with 13,200 of these machine guns and around 16 million SS109 shells for them during the period 1983-1985.

The U.S. Army has a large quantity of /antitank weapons/. The 66mm M72A2 handheld antitank granade launcher is the main weapon used by the infantry for close

combat with armored forces. It is fired from the shoulder and has a range of up to 300 meters. In the near future it is planned to replace this weapon with the Viper grenade launcher, which has a greater firing range against tanks, greater accuracy and greater armor-piercing capability. It is planned to provide the forces with around 60,000 of the new grenade launchers before 1984.

Table 1. Technical Specifications for Small Arms

Weapon	Weight (kg)	Length (mm)	Gun range (m)	Rate of fire (rounds per minute)	Magazine, belt capacity (cartriges)
11.43mm M1911A1 Colt pistol	1.36	2.18	68	14	7
11.43mm M3A1 sub-machine gun	4.35	587[1]	90	120	30
7.62mm M14 rifle	4.6	1120	1000	40	20
5.56mm M16A1 automatic rifle	3.68	990	500	150	20, 30
5.56mm M249 machine gun	6.5	1000	1300	--	30(200)
7.62mm M60 general-purpose machine gun	17.2[2]	1100	1200	200	(250)
12.7mm M2HB Browning machine gun	58[2]	1653	1800	100	(100)

1. 757mm with butt extended.
2. Including mounting.

The 90mm M67 grenade launcher and the 106mm M40A2 recoilless weapon in use until the beginning of the 1970s are being replaced with the Dragon and TOW antitank rocket systems (PTRK) respectively. The former has been provided to the troops since 1975, and there are more than 10,000 of them. The system consists of a rocket, launching and control equipment. Its total weight is 14.5 kilograms and it is carried by a single soldier. It has a firing range of up to 1,000 meters against tanks. At night the An/TAS-5 heat-detecting sight is used with the weapon. In the future the U.S. Army command plans to replace the Dragon system with the Tank Breaker, a third-generation antitank rocket system presently under development. Its rocket, which has an infrared homing head and a hollow-charge warhead, is fired at a range of up to 2 kilometers from a launcher held at the shoulder.

The American experts consider the TOW antitank rocket system (there are around 6,200 launchers) to be an effective weapon against tanks. It consists of a wire-guided rocket, a launcher with a sight and control equipment. The launcher, to which the sight and the infrared tracking device are attached, is mounted on a tripod or on an armored personnel carrier or passenger vehicle.

The TOW rocket was improved in the USA in the 1970s (Fig. 2). The firing range was increased from 3,000 to 3,750 meters, and a new and more effective warhead

was developed. The AN/TAS-4 heat-detecting sight is used with the weapon at night. In order to increase its armor-piercing capability, the rocket's nose-cone has a saddle-pivot, which is extended after launching. This forces earlier activation of the charge and makes it possible to develop a hollow-charge jet of the optimal shape. Further development produced the TOW-2 antitank rocket system, in which the diameter of the warhead has been increased from 127mm to 152mm and the amount of explosive from 3.6 to around 6 kilograms. The engine specifications were improved due to the rocket's weight. The TOW-2 rocket is fired from a modified launcher, which can also be used for launching earlier models of the TOW antitank rockets. The foreign press reports that 145 million dollars has been requested for the 1983 fiscal year for the purchase of 12,000 TOW-2 rockets and 58.4 million dollars for bringing the TOW antitank rocket system up to the level of the improved model (installation of a new warhead and a heat-detecting sight).

By 1982 1,000 M901 self-propelled launchers, which fire the TOW missiles, had been delivered to the motorized infantry, tank and reconnaissance battalions of American divisions stationed in the FRG. It is planned to increase the total number to 2,000. The launcher hauls an ammunition load of 12 missiles at a maximum speed of 68 kilometers per hour on the highway and 5.8 kilometers on water.

The recently developed M2 Bradley infantry combat vehicle and M3 BRM[armored personnel carrier], as well as the AH-1Q and AH-1S fire support helicopters, are equipped with the TOW antitank rocket system. In addition, a modification has been developed for mounting on some of the multi-purpose UH-60A Black Hawk helicopters.

In 1982 Rockwell International began producing the Hellfire, the third generation of antitank rocket systems, with a semi-active laser homing head. These are to be installed on the new AH-64A Apache fire support helicopters. The initial order is for 680 of these systems. In order to increase the Hellfire system's combat capabilities, it is planned to equip the missile with a heat-seeking or combined (radar and infrared) homing head.

The American military experts believe that along with the above-mentioned weapons, nuclear weapons (especially neutron ammunition), tanks, tactical aircraft, field artillery, which uses new types of ammunition (including guided or homing shells), rocket-launched, salvo-fire systems with cluster-type free-flight rockets, as well as antitank mines, will play an important part in antitank warfare.

According to reports in the foreign press, the USA is now developing a composite antitank system, which has been designated the Assault Breaker. It is designed for destroying grouped armored targets, primarily tanks, up to 100 kilometers from the forward edge. It will include an aircraft with radar for target reconnaissance and for guiding the missiles to the target, a ground control station, a fire control center, mobile ground launchers for ground-to-ground missiles and airborne weapons. During the target reconnaissance and missile guidance period, an aircraft will patrol over the territory of its forces at a distance of around 50 kilometers from the forward edge and outside the range of enemy air-defense facilities.

The /artillery weapons/ include around 2,500 towed and more than 2,800 self-propelled 105mm, 155mm and 203.2mm howitzers, as well as more than 6,000 81mm and

106.7mm mortars (Table 2). The backbone of the artillery is made up of the 155mm M109A2 (AZ) and 203.2mm M110A2 (Figure 3) howitzers. They were modernized at the end of the 1970s, a process focusing mainly on increasing the firing range by lengthening their barrels. The 175mm M107 self-propelled guns were also modified as the M110A2 by replacing the barrels. The obsolete 155mm M114A1 towed howitzers are being replaced with the new M198 howitzer, of the same caliber (it is planned to provide the forces with around 500 of these in all).

Table 2. Technical Specifications of Artillery Weapons

Model	Combat weight	Shell weight (kg) / Muzzle velocity (m/s)	Maximum firing range	Rate of fire (rounds/m) / Unit of fire, shells	Speed (km/h) / Range (km)
202.3mm M110A2 self-propelled howitzer	28	90.7/710	24[1]/30	1/2[2]	55/730
155mm M109A2 self-propelled howitzer	25	43.5/827	22/30	3/36	56/350
155mm M198 towed howitzer	7	43.5/827	22/30	4/-	--
155mm M114A1 towed howitzer	5.8	43.5/560	14.6	3/-	--
105mm M102 towed howitzer	1.47	14.9/494	11.5/15	3-5/-	--
40mm M988 Sergeant York twin self-propelled artillery piece	-	0.96/1000	4[3]	300[4]/580	48/500
20mm M163A1 6-barrel Vulcan self-propelled artillery piece	12	0.1/1000	1.6[3]	3000/2100	68/480
81mm M125A1 self-propelled mortar	11	3.2-5.1/268	4.7	15-18/114	66/480
106.7mm M106A1 self-propelled mortar	11.8	12.3/293	5.6	8-10/88	66/480

1. In the numerator, with conventional shell; in the denominator, rocket-assisted.
2. Remaining shells are hauled on transport vehicle.
3. Maximum effective range against air targets.
4. Rate of fire for one barrel.

In addition to perfecting the artillery weapons themselves, the USA is devoting a great deal of attention to the development of new shells, including nuclear, chemical in binary fillings, cluster-type (containing hollow-charge-and-fragmentation contact elements or grenades) projectiles and projectiles guided to the target in the final phase of the trajectory. The foreign experts believe that the new American shells have a fairly high level of effectiveness and firing accuracy. They also point out the high cost, however, especially that of the guided projectiles. Because of this, and also because of a shortcoming in the 155mm M712 Copperhead guided missile, the fact the target must be lighted with a laser beam

until the M712 strikes it, it was decided to halt its production after around 8,000 had been produced (instead of the planned 40,000). It is planned to give most of these to artillery units of the Rapid Deployment Force.

The USA is continuing development of the 203.2mm XM836 SADARM(Sense and Destroy Armor) cluster-type antitank missile. Three bombs are ejected from the projectile as it reaches the target area, which then descend on parachutes. After the bomb's radar system has locked on to the target, its center is determined and the optimal height is calculated for detonating the charge (around 30 meters), which functions as a percussion ball and destroys the tank from above.

In 1981 the ground forces received the MLRS multiple-launch rocket system (Fig. 4) designed for striking at an area of targets, including tank concentrations. The launcher (with 12 projectors) is mounted on a tracked chassis. For firing at a range of more than 30 kilometers, 240mm free-flight missiles with cluster-type warheads (fragmentation and hollow-shell elements or AT-2 antitank mines) are used. Each free-flight missile contains 644 elements, and 7,728 of these are released in a salvo. They cover an area of approximately 25,000 square meters. A warhead with hollow-shell destructive elements outfitted with heat-seeking heads for homing in during the final phase of the trajectory is now being developed. It is planned to purchase up to 300 of the launchers and around 400,000 of the missiles for the U.S. Army. Total cost for development and production of the MLRS system will be more than 4 billion dollars. The ground forces of Great Britain, the FRG, France and Italy will also receive this multiple-launch rocket system.

The /air-defense weapons/ consist of missile systems (Table 3) and conventional artillery, the most advanced of which are the Patriot and Stinger (portable) antiaircraft missile systems and the M988 Sergeant York twin-barrel, self-propelled antiaircraft artillery gun, which was developed under the (Divad) program.

Table 3. Technical Specifications of Antiaircraft Missile Systems

Model	Antiaircraft missile system specifications		Antiaircraft guided missile specifications			Homing system
	Maximum firing range (km)	Maximum target destruction altitude(km)	Launch weight (kg)	Length (m)/ Diameter (m)	Maximum speed (m/s)	
Nike-Hercules	140	45	4800	12.6/08	940	Radio command
Patriot	60	24	1000	5.2/0.4	1000 plus	Radio command in middle phase of trajectory, semi-active radar in final
Improved Hawk	40	18	625	5/0.37	up to 900	Semi-active radar
Chaparral	4	2.5	84	2.9/0.127	850	Passive infrared
Stinger	4.8(pursuit)	3	9.5	1.52/0.07	700	The same
Redeye	3.4(pursuit)	2.5	8.2	1.22/0.07	600	The same

The Patriot system will replace the obsolete Nike-Hercules long-range antiaircraft missile system. Before 1989 it is planned to provide the ground forces with a total of 103 firing sections (each of which includes radar, a control post, 3-8 launchers, an electric power unit and a staff vehicle) and around 4,300 missiles. The American experts state that the Patriot antiaircraft missile system can fire simultaneously at eight air targets flying at various altitudes.

It is planned to keep the Improved Hawk and Chaparral antiaircraft missile systems (presently being modernized) until the end of the 1980s. With respect to the American version of the Western European Roland-2 short-range system, it has been decided to provide the Rapid Deployment Force with 27 of the antiaircraft missile systems and around 600 missiles. The launcher and the radar equipment will be mounted on the 5-ton M812 vehicle.

The portable Redeye antiaircraft missile system (around 13,000) is gradually being replaced with the Stinger system, and more than 1,000 of the latter have already been delivered. It is planned to purchase as many as 32,000 of the missiles for the ground forces and the Marine Corps. The Stinger antiaircraft guided missile underwent firing tests in 1981. It is outfitted with an improved homing head, which provides better resistance to jamming.

The all-weather 40mm M988 Sergeant York twin-barrel, self-propelled antiaircraft artillery piece has been placed into series production (Fig 5). It is to replace the 20mm 6-barrel M163A1 Vulcan self-propelled antiaircraft artillery piece now in the forces, part of which will then be converted into the towed version, the M167A1. The U.S. Army intends to acquire 618 of the new self-propelled antiaircraft artillery guns.

/Armored vehicles/ are assigned an important place in the weapons system of the U.S. ground forces. The M60 tanks are the backbone of the tank fleet (more than 9,000 vehicles). They are presently being modernized, the work focusing mainly on increasing their fire power by stabilizing the primary weapon and installing an improved fire control system. The later will include a lasar range-finder, an electronic ballistic computer and a heat-detecting sight. According to foreign press reports, the U.S. Army command plans to have more than 7,300 M60A3 tanks, of which around 1,700 will be specially built, while the others will be M60A1 tanks modernized to the level of the M60A3. It is planned to gradually phase out the M60A2 tanks armed with guns and missiles (540 tanks) in the ground forces. The main technical specifications for the armored vehicles now in use in the forces are given in Table 4.

At the beginning of the 1980s the ground forces began receiving new M1 Abrams tanks (see colored inset), the total number of which whould reach more than 7,000 by 1990. According to American military experts the M1 Abrams has a 1.5- to 2-fold superiority over the M60A1 with respect to fire power (a 105mm rifled gun), mobility and protection. A 1,500hp gas turbine engine is used in it, the first time in foreign tank-building. Laminated armor is used in the hull and the turret. Improved observation and fire control equipment (including equipment for use at night), as well as more effective ammunition, significantly enhance the fire capability of this tank. In the future it will be armed with a 120mm smoothbore gun. The high cost of one vehicle is also pointed out. It already amounts to more than 2 million dollars.

Table 4. Technical Specifications for Armored Equipment

Name and year received in forces	Combat weight/(t) crew size (assault)	Dimensions (m): height/length[1]+ width	Weapon caliber (mm):gun/ machine guns	Engine size (hp)	Maximum speed (km/h)/range (km)
M1 Abrams basic combat tank, 1980	54/4	2.9/7.9+3.6	105[2]:two 7.62/12.7	1500	72/440
M60A1 basic combat tank, 1962	48/4	3.26/6.9+3.6	105:7.62/ 12.7	750	48/500
M551 Sheridan light reconnaissance tank, 1966	15/4	2.9/6.3+2.8	152[3]:7.62/ 12.7	300	70/500
M2 Bradley infantry combat vehicle, 1981	21.3/3(6)	2.9/6.2+3.2	25[4]/7.62	500	66/480
M113A1 tracked armored personnel carrier, 1964	11/1(12)	2.2/4.8+2.7	-/12.7	215	68/480

1. Hull length.
2. It is planned to arm around 3,500 M1 Abrams tanks with a West German 120mm smoothbore gun.
3. The ammunition load includes 10 Shillelagh antitank guided missiles and 20 HE fragmentation shells.
4. In addition to the gun, it has a launcher for TOW antitank guided missiles (ammunition load, seven missiles)).

The ground forces have around 12,000 M113 tracked armored personnel carriers for transporting the infantry. This is an amphibious armored personnel carrier with the body armored for protection against small arms fire. The USA has created out of this vehicle an entire family of vehicles for various purposes: a command and staff vehicle, an ambulance, a transport vehicle and a repair vehicle, as well as the Vulcan self-propelled antiaircraft artillery mount, self-propelled mortars and launchers for the TOW antitank guided missile, the Lance missile and the Hawk and Chaparral antiaircraft missile systems. Many capitalist nations have purchased large quantities of the M113 armored personnel carriers.

It took almost 10 years for the American experts to develop the M2 Bradley infantry combat vehicle (Figure 6), designed for operating jointly with the M1 Abrams tank. Its series production was started in 1981, and it is planned to provide the forces with around 3,600 of the vehicles. When this infantry combat vehicle was developed, a great deal of attention was given to the selection of its primary

armament, which now includes a 25mm automatic gun combined with the TOW antitank missile system. Spaced, composite armor provides protection against small arms fire and small-caliber shells. There are firing slits in the sides and the front of the vehicle, through which the infantrymen can fire without leaving the vehicle. The infantry combat vehicle is equipped with an air filtration unit and radio communication equipment. It floats across water barriers, being moved at a speed of 7 kilometers per hour by the turning of the tracks.

The M3 combat reconnaissance vehicle was simultaneously developed out of the Bradley M2. It does not differ externally from the infantry combat vehicle, but the arrangement of its assault landing compartment has been altered somewhat. The combat reconnaissance vehicle carries a crew of 5. The vehicle is equipped with radar for moving ground-target reconnaissance and with two radios. It is planned to provide the U.S. Army with 3,300 of the M3 combat reconnaissance vehicles, which will replace the light M551 Sheridan reconnaissance tanks and the M114 armored personnel carriers, which are still being used along with the M60A1 tanks and M113 armored personnel carriers for conducting reconnaissance.

As a result of competitive tests, the amphibious Piranha wheeled (8x8) armored personnel carrier built in Canada under license from the Swiss Mowag firm was selected as the light armored vehicle at the end of 1982. An armored turret with a 25mm Bushmaster automatic gun, together with a 7.62mm machine gun, has been installed on the basic model, known as the LAV-25. The vehicle's combat weight is 14 tons. It carries a crew of three. It can haul an assault group of six infantrymen and travels at a maximum speed of 100 kilometers per hour on the highway and 10 kilometers per hour on water. According to foreign press reports, around 970 of the light, wheeled armored vehicles will be manufactured during the next 5 years, 680 of which are designated for the ground forces. The rest will go to the Marine Corps. It is stated that this vehicle is apparently going to be used in subunits of the Rapid Deployment Force.

The /missile weaponry/ consists of the Pershing I and Lance guided missile systems. They are organized into battalions, which are stationed in the FRG. The three Pershing I battalions (each battalion has 36 launchers) are one of the main means of inflicting nuclear strikes for the grouping of ground forces of the NATO bloc in the Central European theater of military operations. The Pershing I ballistic missile has a maximum firing range of 740 kilometers and carries a 60-400 kiloton nuclear charge (Figure 7). Within the next few years the Pentagon plans to replace these guided missiles with the Pershing II, a qualitative new medium-range missile with a firing range of around 1,800 kilometers.

In the 1970s the American Sergeant and Honest John missiles in Western Europe were replaced with 36 Lance missile launchers, which are formed into six battalkons. Two battalions (12 launchers) are in the continental USA, at Fort Sill in the state of Oklahoma. The Lance guided missile launcher is mounted on the hull of an M13 tracked armored personnel carrier. It carries a nuclear charge of 1-100 kilotons. The production of neutron charges has now been started in the USA for the warheads of these missiles. It is planned to assign the Lance missile systems to divisions for destroying the enemy's nuclear weapons, control points, communication centers, air defense facilities and troops and equipment in forming-up areas and in the operational-tactical depth (the maximum firing range is 120

kilometers). The Vought company is presently testing the T-22 missile created from the Lance guided missile, which has a cluster-type warhead outfitted with hollow-charge destructive elements with heat-seeking homing heads. It is planned to use these missiles as part of the Assault Breaker system for combatting tanks.

The /Army Aviation/, in the opinion of American military experts, has a significant role with respect to increasing the mobility and the combat capability of the ground forces and reducing the degree to which they are limited by terrain conditions. It includes up to 500 aircraft and around 8,000 helicopters (approximately half of them are various modifications of the UH-1 Iroquois multi-purpose helicopters). The aircraft are mainly used for reconnaissance, communication and radioelectronic warfare. The helicopters have undergone significant alterations.* They have been improved, especially with respect to enhancing their flight performance and reliability.

A great deal of attention is being devoted to the development of fire support helicopters. The foreign experts consider the AH-64A Apache (Figure 8), armed with 16 Hellfire antitank guided missiles and carrying the latest radioelectronic equipment, to be the best of them. It is planned to produce a total of around 450 of these helicopters. Army Aviation subunits are also receiving the AN-1S antitank helicopters with TOW antitank guided missiles, the total number of which will be around 1,000 by the end of 1984. Some of these will be specially built, while the rest will be converted AH-1G and AH-1Q helicopters.

The forces already have up to 300 of the new UH-60A Black Hawk multi-purpose helicopters, and it is planned to provide more than 1,100 in all.

Work is also presently underway to modernize the reconnaissance helicopters and transport helicopters for airborne landing operations. Among other things, around 430 of the heavy SH-47A, B and C Chinook helicopters will be converted into the improved CH-47D model.

The U.S. Army command believes that overall, equipping the ground forces with new weapons models in combination with modern reconnaissance, communication and control systems (including automatic systems) will significantly enhance their combat capability.

*For a more detailed discussion of American helicopters see ZARUBEZHNOYE VOYENNOYE OBOZRENIYE, No. 1, 1983, pp 35-43.--Editor

PHOTO CAPTIONS [Not reproduced]

1. p 34. 5.56mm M249 machine gun.

2. p 34. American TOW antitank guided missiles (from left to right: ordinary, improved, TOW-2.

3. p 36. 203.2mm M110A2 self-propelled howitzer.

4. p 37. MLRS multiple-launch rocket system.

5. p 37. 40mm M988 Sergeant York twin self-propelled antiaircraft artillery mount.

6. p 37. M2 Bradley infantry combat vehicle.

7. P 38. Pershing I missile in launching position.

8. p 39. AH-64A Apache fire support helicopter.

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COMMENTARY ON U.S. MILITARY SPACE WEAPONS

Moscow ZARUBEZHNOYE VOYENNOYE OBOZRENIYE in Russian No 4, Apr 83 (signed to press 11 Apr 83) pp 45-47

[Article by Eng-Col V. Viktorov: "The Development in the USA of Weapons for Destroying Objects in Space"]

[Text] Regarding outer space as a potential theater of military operations, militaristic circles in the USA have drastically stepped up the development of so-called space weapons. The Carter Administration halted talks on the limitation or banning of anti-satellite weapons systems, and the present American leadership shows no intention of renewing them. Furthermore, referring to the United States's policy in the area of conquering space, President Reagan has declared frankly that his administration would prepare itself to conduct warfare in space. In his words, the USA will continue to work on the development and deployment of anti-satellite weapons systems and to establish a permanent presence in space. One of the directives issued to the Air Force command by Secretary of Defense Weinberger also attests to the intention to militarize space. According to the WASHINGTON POST, the directive stresses, among other things, the fact that the execution of military operations in space "is fully in keeping with the national interests of the USA."

Practical actions have confirmed the Reagan Administration's course of militarizing space. The fourth flight of the reusable space ship, according to the foreign press, marked the end of the purely scientific flights by American astronauts. For the first time it carried military equipment on board, and specific military missions were assigned to the astronauts. The U.S. secretary of defense's decision to create a special space command within the Air Force as of 1 September 1982, which will be in charge of special weapons systems designed for combat operations in space, is considered by the foreign press to be another step in this direction.

According to foreign press reports, work is presently underway in the USA to create anti-satellite weapons under three main programs. An airborne missile system for intercepting (ARKP) objects in space is being developed under the first program. The second involves a search for optimal scientific and technological decisions in the area of developing space defense systems, using modern missiles and space equipment. The third program covers research into the possibilities and the effectiveness of destroying objects in space by means of high-energy lasers. The fact is stressed that the main attention is being concentrated on the first program, since the American experts believe that it is more effective to use airborne

intercept missile systems than to intercept targets by means of special satellites and that these cost less than lasers. The second and third programs are considered to be auxiliary programs and are being carried out in case serious complications should arise in the development of the airborne intercept missile systems.

The American companies Vought, Boeing and McDonnell-Douglas have been developing the airborne intercept missile system since 1977. It is designed for destroying artificial earth satellites of the enemy in low orbits. The system includes a carrier aircraft (a modernized F-15 fighter) and a 2-stage ASAT (Anti-Satellite) missile, which weighs around 1,200 kilograms, is 6.1 meters long and has a hull diameter of 0.5 meter. The missile is mounted beneath the aircraft fuselage (Figure 1). An improved solid-fuel rocket engine (RDTT) with a thrust of 4,500 kilograms (used in a surfact-to-air guided missile) is used as the engine for the first stage, while the second will use a solid-fuel rocket engine with a thrust of 2,7020 kilograms (used in the fourth stage of the Scout carrier rocket). The payload will be a compact MHIV (Miniature Homing Intercept Vehicle) interceptor, which weighs 15.4 kilograms and is 46cm long and 30cm in diameter.

The interceptor consists of several dozen small engines, an infrared homing system, a laser gyroscope and a miniature electronic cumputer (Figure 2). There is no explosive on board the interceptor, since the target (an enemy artificial earth satellite) is supposed to be destroyed by kinetic energy in a direct hit.

An inertial system will be used for guiding the ASAT missile to a precalculated position in space after it has separated from the carrier aircraft. It is located in the second stage of the missile, where small hydrazine engines have been installed for exercising three-diminsional control. When the second stage completes its work the compact interceptor is made to spin up to 20 rps by means of a special platform (this is essential for the normal functioning of the infrared homing system and for stabilizing the interceptor in flight). The interceptor's infrared sensors, which are scanning space by means of eight optical systems, must intercept the target by the time the interceptor separates from the carrier.

The interceptor's solid-fuel engines are arranged in two rows around its hull, and the nozzles are located in the middle. This permits the MHIV to move up, down, to the right and to the left. The moments at which the engines begin guiding the interceptor to the target must be calculated so that the nozzles are properly oriented in space. A laser gyroscope, which is essentially a high-precision time piece counting the revolutions, is used for determining the orientation of the interceptor itself. Signals received by the infrared sensors from the target and information from the laser gyroscope go into the miniature electronic computer. It determines with an error of less than a microsecond which engine must be engaged to move the interceptor toward the target. In addition, the electronic computer computes the sequence for activation of the engines, so that the dynamic balance is not disturbed and the interceptor does not begin flying unevenly.

The foreign press states that the Vought company has built an intricate ground complex for perfecting the guidance system. It includes vacuum chambers and a compartment for performing tests with dropped compact interceptors, which have been guided in free fall to model satellites (25 such tests have already been made).

It is planned to launch the ASAT missile from a carrier aircraft at altitudes of 15,000-21,000 meters, in both horizontal flight and in a climb. The modernization of the F-15 fighter, designated for conducting the flight tests with the airborne intercept missile system, has now been completed. It was mainly a matter of installing a special ventral pylon (for suspending and launching the missile) and communication equipment. The pylon houses a small electronic computer, equipment for linking the aircraft with the missile, a commutation system, a reserve power battery and a gas generator for separating the ASAT.

It is planned to direct the aircraft to the calculated position for launching the missile by means of commands from an air and space defense control center, which the pilot will receive in the cockpit. Most of the operations involved in preparing for the launching will be performed by means of an airborne electronic computer. The pilot's task consists of maintaining the prescribed direction and launching the missile upon receiving the proper signal from the electronic computer. The launching must be carried out within a space of 10-15 seconds.

According to reports in the American press, it is planned to perform actual intercepts of target-artificial earth satellites by means of airborne intercept missile systems in 1983. An experimental center is being created to direct the intercept. It will receive tracking data on the artificial earth satellite and on the position of the carrier aircraft. The commands for guiding the ASAT missile and the launching time will be determined from this information and transmitted to an electronic computer on board the F-15.

Ten of the target-artificial earth satellites designated for use in assessing the effectiveness of the airborne intercept missile system have already been produced. They can alter the heat radiation characteristics for modelling various types of satellites. It is planned to send up the targets from the Western Missile Range at the Vandenberg Air Force Base in the state of California by means of Scout carrier missiles capable of carrying a payload of around 180 kilograms into a circular orbit 550 kilometers high. The tests will be arranged so that the points of intercept of the targets will take place over the Pacific Ocean. During the period of these tests it is planned to locate the airborne intercept missile system at Edwards Air Force Base in California. The tests will be considered successful, according to the American experts, if the probability of destroying 10 targets is 0.5. Only then will the airborne intercept missile system be considered suitable for performing combat missions, and production of the ASAT missiles will be started.

The foreign press states that the first squadron of F-15 aircraft to carry the ASAT missiles will be based at Langley Air Force Base in the state of Virginia and that is planned to deploy two such squadrons (36 aircraft) on the East and West coasts of the USA. During those periods when the airborne intercept missile intercept are not judged to be combat ready and exercises using ASAT missiles for intercepting artificial earth satellites are not being conducted, it is planned to use the modernized F-15 fighters as conventional fighter-interceptors for the NORAD command (it will take around 6 hours to reequip an F-15).

The cost of developing the airborne intercept missile system is presently estimated at 700 million dollars, with the deployment of the two squadrons costing

675 million and their operation for a period of 10 years will cost an estimated 500 million dollars (around 400 million dollars has already been spent on the development of the airborne intercept missile system). In the future, the American experts claim, a small interceptor placed into space by means of Minuteman, Trident or Titan-3D missiles may be used for destroying satellites in any orbit (even a stationary orbit).

The Pentagon attempts to justify the development of these types of weapons with hypocritical statements to the effect that weapons for destroying satellites are needed "to protect space objects important to the national defense." In reality, however, as the Political Declaration of the Warsaw Pact states notes, "the American programs recently approved and already being implemented for developing weapons based on the latest scientific achievements and discoveries, including systems and means for conducting combat operations in and from space, are designed to increase the destructive power of the USA's military arsenal many times over."

PHOTO CAPTIONS

1. p 46. Suspending an ASAT missile from the ventral pylon on an F-15 carrier aircraft.

2. p 46. Compact MHIV interceptor (sectional view): 1. optical system of an infrared sensor; 2. solid-fuel engine; 3. miniature electronic computer; 4. laser gyroscope; 5. engine nozzle.

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PERCEPTIONS, VIEWS, COMMENTS

COMMENTARY ON WESTERN HYDROFOIL SHIPS

Moscow ZARUBEZHNOYE VOYENNOYE OBOZRENIYE in Russian No 4, Apr 83 (singed to press 11 Apr 83) pp 57-64

[Article by Capt 1st Rank P. Lapkovskiy, candidate of military sciences, docent: "Hydrofoil Ships"]

[Text] In the aggressive plans for building up the naval forces of the USA and its NATO partners, considerable attention is being devoted to the problem of developing promising ships with dynamic principles of support. In addition to hovercraft (KVP)* and ground-effect machines ["ekranoplany"], these also include hydrofoils (KPK). The foreign press states that the interest being shown in hydrofoils is due primarily to the fact that they have better seagoing qualities than conventional ships with the same displacement and are less vulnerable to mines and torpedoes, as well as to their potential capabilities for performing the following missions: combatting surface ships and submarines, patroling, protecting naval lines of communication, providing security for convoys and landing forces crossing the ocean, taking part in blockade operations, providing fire support for naval landing forces during disembarkation and for their operations on the shore, the performance of search and rescue operations and the transportation of personnel and military equipment.

The hydrofoil is moved by the characteristic of a wing (located on the bottom) of creating a lifting force when the water flows over it. At a certain speed it lifts the hull above the water, which significantly reduces resistance to the ship's movement and increases the speed without an increase in the capacity of the power unit.

The foreign press has reported on the following hydrofoil systems: hydrofoils which clear the surface of the water, slightly submerged and deeply submerged hydrofoils (automatically controlled). Automatic control of the foils at high speeds makes it possible to hold the ship at a prescribed height above the surface of the water, to keep the hull from striking against the water, to significantly reduce losses of speed in turbulence, to assure stable movement on the horizontal plane or along the contour of a wave, and stabilization with respect to listing and trim, and to reduce the degree of vertical zccelerations.

The foils can be arranged on the hull in three different patterns: "tandem," "aircraft" and "duck-type." Two semi-submerged foils are ordinarily used in the tandem arrangement, each of which supports half the weight of the ship. The load

*For more details on hydrofoils read ZARUBEZHNOYE VOYENNOYE OBOZRENIYE, No 1, 1982, pp 75-79.--Editor

is not equal on the foils in the latter two arrangements. The main foil is the most deeply submerged. It supports 60-90% of the ship's weight. The fore foil is the main one in the "aircraft" arrangement. In the "duck-type" arrangement it is the stern foil.

Gas turbine engines (GTD) or diesels are used as the main engines on hydrofoil ships, while screw propellers or hydro-jets serve as the propulsion agents. There are unified and separated propulsion systems. Unified systems such as a diesel-screw propeller system, for example, are used in both the elevated and the displacement mode of movement for hydrofoil ships. In the separated systems gas turbine engines are used for movement in the elevated mode ("gas turbine engine and water-jet"), while diesels are used in the displacement mode ("diesel and screw propeller").

Western military experts consider the following to be among the advantages of these ships: their high speeds, which exceeds 50 knots in calm water (80 knots in the future) and the insignificant reduction in speed in highly turbulent water; their good navigational and maneuvering capabilities; their small physical field; the fact that the main power plant (GEU) necessary to achieve the prescribed speed is 40-50% smaller than that required for conventional ships with the same displacement. In addition, vertical and horizontal motion is practically not felt when travelling under stormy conditions, and consequently, the crew can work more efficiently and the weapons can be used more effectively in combat.

The foreign press also stresses some shortcomings of the hydrofoil ships: a fairly prominent silhouette when moving above the water, as a result of which the effective scattering cross-section is increased, and this in turn increases the range at which the ship can be detected by the enemy's technical equipment and results in a higher probability that it can be homed on and selected for destruction with anti-shipping missiles; the large draught when moving in the displacement mode, when the foils are rigidly attached to the hull and cannot be lifted out of the water; and the bulkiness of the latter (they account for up to 15-20% of the weight of the hydrofoil ship).

The development of combat hydrofoil ships was initiated in the USA in the 1950s. The focus was on substantiating the feasibility of designing and building such ships and determining their combat capabilities. Simulated and actual tests with small experimental hydrofoils were conducted during that period, along with the theoretical research. In the beginning of the 1960s the United States also began the construction and trials of larger experimental hydrofoils with a view to selecting the optimal model for subsequent series production and for testing the technical decisions incorporated in the ship.

The experimental PCH1 High Point ASW hydrofoil ship was built and turned over to the navy in 1963 (Figure 1). It has a displacement of 110 tons and a maximum speed of 48 knots. Torpedo and artillery firings were conducted in the first stage of its operation, and the procedure for towing a dummy sonar at high speeds was worked out. Launchings of Harpoon anti-shipping missiles (PKR) were carried out in 1973-74. The armament was subsequently removed. At the present time the boat is being used as an experimental vessel for testing new technical decisions for the creation of future hydrofoils. Among other things, it is planned in 1983

to equip the High Point with a container weighing 66 tons in the shape of an elongated torpedo (on a special strut beneath the foils). It will be used for carrying an extra fuel supply (approximately 24 tons). The hydrofoil's speed will be reduced somewhat by this (to 40 knots), but its cruising range will increase considerably. In addition, the Western military experts believe that this will create an additional lifting force, which will make it possible to relieve the load on the foil system and to reduce its size. The results of the tests are to confirm the feasibility of creating during the period 1990-1995 a multi-purpose hydrofoil ship with a displacement of 1,350 tons, with a large cruising range and capable of moving at high speeds, with modern means of combating air and underwater targets and capable of effectively performing the missions involved in providing security for naval task forces and convoys.

The Tucumcari and Flagstaff experimental artillery hydrofoil ships (the former with a displacement of 43 tons, the latter displacing 50 tons) were built in 1968. These were the first in the history of hydrofoil ships to employ deeply submerged, automatically controlled foil systems. Prior to 1970 they underwent testing as part of the 7th Fleet, taking part in the American aggression in Vietnam. The foreign press stresses the fact that they demonstrated an adequately high level of effectiveness there. The Tucumcari could be operated in waves up to 4 meters high. In this situation, an automatic stabilization system kept the rolling effect to no more than 2°, while the pitching effect was around 3°.

The Flagstaff's artillery armament initially included a 40mm artillery gun and mounting, twin 12.7mm machine guns and an 81mm mortar. During the tests the 40mm artillery system was replaced with a turret from the M551 Sheridan light tank with a 152mm gun, a launcher for firing shells and Shillelagh antitank guided rockets.

The fate of these hydrofoil ships was the following. The Tucumcari went aground in 1972, suffered extensive damage and was removed from the fleet. The Flagstaff was turned over to the Coast Guard in 1976. All of the weapons were removed from it, except for one machine gun.

The Plainview, the largest hydrofoil boat (displacing 320 tons) went into operation in 1969. It was used for studying the tactical capabilities of hydrofoils for combating submarines. In 1973 Sea Sparrow antiaircraft guided missiles were also launched from it while it travelled at speeds of more than 40 knots.

The foreign press reports that the American experts have concluded from the experience obtained in the designing, building and operating of experimental hydrofoil ships that it will be feasible in the future to use on series-produced hydrofoils totally submerged, automatically controlled foils arranged in the "duck-type" pattern, as well as separated propulsion systems.

In 1972 the USA, the FRG and Italy concluded an agreement on the development of a standardized missile hydrofoil ship for the fleets of the NATO nations (Project NATO/PHM), under which the Boeing company designed the prototype missile hydrofoil boat, the Pegasus (see colored inset). Its construction was begun in 1973, all-round tests were conducted beginning in 1975, and it was turned over to the American Navy in 1977. It was initially planned for the USA to build 30 of these boats, while the FRG was to build ten and Italy would build four (including three

Italian shipyards). At that time the program aroused a certain amount of interest in the other NATO nations (Canada, Norway, France and Great Britain), as well as Sweden, Japan and Australia. They declined to participate in it, however.

In the course of building the Pegasus hydrofoil ship, costs increased due to the use of new technology and the alteration of certain aspects of the design, which significantly increased the cost of the series-produced boat. For this reason the FRG and Italy rejected this hydrofoil ship and the U.S. Navy decided (after testing the prototype) to build only five of the boats and then subject them to assessment and performance trials as part of a formation for purposes of determining their combat effectiveness, working out tactical procedures for using them and acquiring experience in operating them. Only after this had been done would a decision be made as to the feasibility of building more of these hydrofoils. Under the program for developing the Navy it was planned to place all five of the hydrofoil ships into operation before the end of 1982. After their experimental operation is completed in the USA it is planned to base the boats in the Mediterranean Sea, where they will operate as part of the 6th Fleet.

The basic technical specifications for the Pegasus hydrofoil ship are the following: total displacement--235 tons; length--40 meters, width of hull--8.6 meters (14.5 meters including the foils); draught in displacement mode with foils lowered--7.1 meters (1.9 meters with foils raised), 2.5 meters when moving on foils; main power plant--18,00hp LM2500 gas turbine engine, and two 800hp diesels; maximum speed when moving on foils--more than 50 knots, 12 knots in displacement mode; cruising range--700 miles at speed of 40 knots, 1,700 miles at 9 knots; armament--two 4-pod launchers for Harpoon anti-shipping missiles and a 76mm artillery gun. It carries a crew of 21, including four officers. The boat is equipped with the Mk92 weapons control system. The Mk34 Chaffrock is used for passive jamming. A 3-coordinate stabilization system controls the hull's elevation above the water, permits the ship to move horizontally or along the contour of a wave and also reduces vertical accelerations to 0.1 g.

The main hydro-jet propulsion device is used for moving on the foils (when the turbulence at sea is less than 5 points), while the two auxiliary hydro-jets are used in the displacement mode. Judging from reports in the foreign press, the armament on the first four series-produced boats is the same as on the Pegasus hydrofoil. The last boat in the Hercules series is being transferred to the Navy without weapons and will initially be used as an experimental boat.

The missiles on these boats can be used both to the range of direct radar visibility (according to data from their own detection equipment), as well as to full range (up to 110 kilometers). In the latter case it is proposed that external, remote target indication posts (on ships, planes or helicopters) be used or that the target coordinates be determined by taking DF bearings from two hydrofoil ships located a certain distance apart.

Since 1977 the U.S. Navy has acquired a considerable amount of experience in operating the prototype Pegasus hydrofoil. It has taken part in six large exercises, in one of which it made two trips of 3,000 miles each. With an established self-sufficiency of 5 days, it performed missions lasting up to 11 days (taking on food and fuel at sea). It is stated that the Pegasus is difficult to detect from

the air, while the effective firing range if its 76mm artillery gun is 3750-6000 meters against air targets. The Western press reports that in order to demonstrate the extensive possibilities of using hydrofoil boats for performing various combat missions, the American Boeing company produced unsolicited disigns for nine hydrofoil ships with a displacement of 236-249 tons: four ASW hydrofoils, one with a medium-range and one with a short-range antiaircraft missile system, a patrol boat, a minelayer and a mine sweeper. Depending upon their purpose, their armaments could include the Harpoon anti-shipping missile system, an antiaircraft missile system, artillery guns, the Bofors launcher for depth charge rockets, torpedo launchers for ASW torpedoes, a helicopter. They will be equipped with modern radioelectronic equipment, as well as means of locating and destroying mines (the mine sweepers). No orders have been received for these boats.

Grumman, another American company, has worked out an unsolicited design for an Mk2 Flagstaff hydrofoil ship with various armament options. According to the foreign press, the Israeli navy has placed an order for the construction of one such boat (the M161 [Shimrit]). Its sea trials were begun in September of 1982, and it was placed into operation in January of 1983. It is also reported that a second boat (the [Livmit]) is being built under license in Israel and that the Israeli navy plans to build another eight of them in the future.

Technical specifications for the (Shimrit) hydrofoil ship (Figure 2) are the following: total displacement--100 tons; length--25.6 meters; hull width--7.3 meters (around 13 meters including the foils); draught--4.8 meters in the displacement mode with foils lowered, 1.7 meters when moving on foils; main power plant--3980hp; maximum speed on foils--52 knots (economical speed--42 knots), and 10 knots in the displacement mode; range--up to 1,150 miles at a speed of 42 knots, 3,300 miles at 10 knots. Its possible missile armament combinations are two single-pod launchers for Gabriel anti-shipping missiles and four for Harpoon missiles; four launchers for Gabriel anti-shipping missiles; eight Harpoon missile launchers. In addition to the anti-shipping missiles, it is planned for the boat to carry two 30mm double-barrel artillery guns or one 76mm single-gun piece. The foil system consists of deeply submerged, automatically controlled foils (two bow and one stern).

In addition, the Boeing company developed a passenger hydrofoil ship, the Jetfoil, in the first half of the 1970s, initiated its series production and has delivered around 25 such boats to various nations. The following hydrofoil ship modifications were developed out of the Jetfoil: a missile hydrofoil and a patrol hydrofoil (for guarding a 200-mile economic zone), a transport hydrofoil, which can haul 250 soldiers with personal weapons or 35 tons of cargo, and a hydrofoil with 213 bunks for evacuating wounded. The company received only one order, however, an order from the British Navy for the construction of a P296 Speedy patrol boat.

According to the foreign press, the Speedy P296 (Figure 3) became a part of the British fleet in 1980. Its total displacement is 117 tons; it is 27.4 meters long and 9.5 meters wide; it has a hull draught of 1.7 meters (4.3 meters in the displacement mode with foils lowered); its main power plant consists of two 3300hp gas turbine engines and two 550hp diesels; its maximum speed is 50 knots (cruising speed, 43 knots); it has a range of 600 miles on the foils and 1,500 miles in the displacement mode. It carries a crew of 18. Although this boat is officially

designated for guarding a 200-mile economic zone, the Western experts stress the fact that it was primarily used to determine the possibility and the effectiveness of using combat hydrofoil ships in the North Sea. Since the results of the tests with the P296 Speedy in the North Sea were unsatisfactory, the British Navy does not plan to build more of these boats.

The idea of creating a so-called "100-knot fleet" was advanced in the USA at the beginning of the 1970s, that is, a fleet consisting of ships with dynamic support principles and speeds reaching 100 knots. In connection with this project the Boeing company performed tests to determine the possibility of creating a hydrofoil ship with a displacement of up to 1,600 tons. Boeing has performed design studies for guided missile frigates with a total displacement of 1,625 tons (Design 001E) and with a displacement of 1,363 tons with three different armament combinations (Designs 002B, 102B and 202A). These hydrofoil ships were designed for performing the missions involved in providing security for task forces and convoys. They are supposed to be self-sustaining at sea for 45 days and to be able to cross the Atlantic Ocean without refueling. Their armament can include Harpoon anti-shipping missile systems, antiaircraft missile systems, artillery guns, torpedo weapons and helicopters. The fact is stressed that these designs are already obsolete, however.

In 1977, under an order from the U.S. Navy, the Grumman company studied the possibility of creating a guided missile hydrofoil frigate with a total displacement of 2,400 tons. It was designated Project M163 or HYD2. It was 106.8 meters in length with foils lowered (111 meters with foils raised). The hull was 15.9 meters wide (35.6 meters with the foils lowered) and it had a draught of 5.7 meters in the displacement mode with foils raised (13.4 meters with foils lowered) and 5.4 meters when moving on the foils. It had a maximum speed of 53 knots, a range of 2,950 miles at a speed of 45 knots, up to 5,900 miles in the displacement mode. The main power plant included two 43,600hp gas turbine engines (for moving on the foils or in the displacement mode) and a 5,100hp gas turbine engine (only for traveling in the displacement mode). The propulsion devices were four screw propellers (two for traveling on the foils or in the displacement and two only for the displacement mode). Its armament included 72 shafts for the vertical launching of various types of missiles (anti-shipping missiles, medium-range antiaircraft guided missiles and anti-submarine guided missiles), 24 shafts for the vertical launching of short-range antiaircraft guided missiles, four single-tube torpedo launchers, two helicopters and 12 unmanned aircraft.

The foreign military experts believe that construction of this type of hydrofoil could be started at the end of the 1990s. The shipbuilding programs adopted in the USA do not call for the construction of large hydrofoil ships, however. Research continues in this area. Scientific research and experimental development work is being performed for the development of new foil systems, which could increase the ship's speed to 80 knots, and studies are underway into the possibility of basing VTOL or STOL aircraft on the larger hydrofoil ships, as well as the possibility of arming the hydrofoils with Tomahawk cruise missiles.

Other capitalist nations are at work on the development of hydrofoil ships, along with the USA, primarily Italy, France, Canada and Switzerland.

In /Italy/ the navy received the Sparviero hydrofoil missile boat in 1974. It was designed and built by the Alinavi company with the technical assistance of the Boeing company (USA). The American Tucumcari hydrofoil ship was used as the basis for its design. The Sparviero has the following technical specifications: total displacement--62.5 tons; hull length--23 meters (24.5 meters with foils raised); width--7 meters (10.8 meters when traveling on foils); draught--1.6 meters (4.4 meters in displacement mode with foils lowered); power--4,500hp gas turbine engine and 160hp diesel; maximum traveling speed--50 knots, 8 knots in displacement mode; sailing range--400 miles at speed of 45 knots, 1,000 miles at 8 knots; armament--two single-compartment launchers for Otomat anti-shipping missile systems and a 76mm artillery system. It carries a crew of 10, including two officers. The hydrofoil can develop a speed of 42 knots in a turbulence of 4 points, in which case the vertical acceleration is 0.25 g., rolling 2.5°, pitching 2°.

After comprehensive tests were performed with the Sparviero hydrofoil, the Cantieri Navali Riuniti company built another six hydrofoils of this class in 1980-1982 (Figure 4).

Italian military experts state that boats of the Sparviero class have a high degree of seaworthiness and that it costs less to operate them than it does to operate the conventional displacement missile boats (because of the small crew and the reduced fuel consumption per mile).

According to reports in the Western press, the Italian Rodrigec Cantieri Navale company began on its own to develop five designs for combat hydrofoils (based on the RHS passenger series), designated the M100, M150, M200, M300 and M600. They have stationary foils and struts intersecting the water surface, which are rigidly attached to the hull. These boats have a displacement of 32-125 tons, a maximum speed of 38-40 knots and a range of 500-650 miles when traveling on the foils. Depending upon their function, their armament may include anti-shipping missile systems, antiaircraft missile systems, artillery guns of a caliber up to 66mm, ASW torpedoes and helicopters (on the M300 and M600). At the beginning of 1983 no orders had been received for these hydrofoil ships.

/France/ has engaged in independent research in the creation of hydrofoil ships for more than 15 years. The designs for the H-851 and H-74-170 missile hydrofoil ships are completed, but the ships have not been built. They have a displacement of 122-174 tons, a speed of 48-50 knots, power units of 5,800-7,060hp and their armaments include four single-compartment launchers for the Exocet anti-shipping missiles and 40mm artillery guns. They have deeply submerged foils and are capable of negotiating waves up to 4.5 meters high.

The foreign press reports that France is presently developing the design for the Saphir hydrofoil ship. It displaces 185 tons, has a hull 32.7 meters long and 8.5 meters wide and a draught of 1.9 meters in the displacement mode (with foils raised) and 2.3 meters when moving on the foils. Its power plant includes two 4,750hp gas turbine engines (which power the main screw propellers) and two 200hp diesel engines (for the individual screw propellers). Its maximum speed on calm water is 54 knots, 52 knots in a turbulence of 5-6 points. It has a range of 1,000 miles at a speed of 40 knots and 3,600 miles at a speed of 10 knots in the

displacement mode. It is armed with four single-compartment launchers for Exocet anti-shipping missiles (or eight launchers for Harpoon anti-shipping missiles) and a 76mm artillery gun. Its deeply submerged, automatically controlled foils are arranged in the "duck-type" pattern.

Since 1979 the French Navy has been working on the draft design for a hydrofoil frigate designated for combating submarines. It will have a total displacement of 1,940 tons, a length of 92.8 meters and a width of 22.8 meters when moving on the foils, and a draught of 16.3 meters in the displacement mode with foils lowered and 4.8 meters when traveling on the foils. The main power plant consists of two 40,500hp gas turbine engines and two 2,150hp diesels. It is propelled by screw propellers (two for each mode of travel) and its maximum speed will be 53 knots in calm water and 50 knots in a turbulence of 6 points. It will be armed with six Exocet anti-shipping missiles, a 100mm artillery system and ASW helicopters. It will carry a crew of 92. Current ship-building programs do not yet call for the construction of these ships.

In 1968 /Canada's/ navy built the Bras d'Or experimental ASW hydrofoil ship. It has a total displacement of 237 tons, a length of 46 meters, a width of 6.6 meters, adraught of 2.3 meters when traveling on the foils and a maximum speed of 63 knots on the foils. It is armed with ASW torpedoes. The boat can travel on foils in waves up to 4.6 meters high. The Canadian press has stated that it has been successfully tested. This hydrofoil ship is presently in the reserve.

In the 1970s the Canadian Havilland company designed the DHC-MP-100 multi-purpose hydrofoil ship with foils which intersect the water surface (the Bras d'Or was the prototype for this hydrofoil). Its basic technical specifications are the following: total displacement--105.5-108.2 tons (depending upon the armament combination); length--36 meters; width--6.6 meters; draught--2.4 meters when traveling on the foils, 5.3 meters in the displacement mode; power plant--two 3,100hp gas turbine engines and two 400hp diesel engines; maximum speed on foils--50 knots, 10 knots in the displacement mode. It has a range of 650 miles when traveling on foils and 1,900 miles in the displacement mode. It can carry the following combinations of weapons: 57mm and 20mm artillery guns; two single-compartment launchers for Harpoon or Exocet anti-shipping missiles and a 20mm artillery gun; two double-tube torpedo launchers for ASW torpedoes, a 20mm artillery gun and towed GAS[sonar equipment]. Tho screw propellers are used for traveling on the foils and two for traveling in the displacement mode. At the present time the company has received no orders for hydrofoil ships of this class.

In /Schwitzerland/, according to the foreign press, the Supramar company, which mainly designs passenger hydrofoil ships and sells licenses for their construction, developed the MT-250 missile hydrofoil boat in the 1970s. It has a total displacement of 250 tons, a maximum speed of 60 knots, a range of 400 miles at a speed of 55 knots and 1,800 miles at a speed of 13 knots. Its main power plant includes a 15,000hp gas turbine engine and two diesel engines. No orders have been received for the blueprints, however.

The U.S. Navy command and the navies of the USA's allies in the aggressive NATO bloc believe that hydrofoil ships can become an effective means of conducting warfare at sea and can have a major impact upon means and methods of conducting

combat operations against surface ships as well as modern nuclear-powered submarines. In the capitalist nations, especially the NATO nations, research is underway in the development of hydrofoil ships with a displacement of 60 to 2,400 tons, with the possibility of beginning their construction in the 1990s. However, the Western press stresses the fact that at the present time only three states have demonstrated a real interest on the practical level in the construction of missile hydrofoil ships with a displacement of 62-235 tons: the USA has built six of the Pegasus class boats, Italy has built seven Sparviero boats and Israel is building the (Shimrit) hydrofoil ship. At the present time the other nations have not decided to build any hydrofoil ships.

PHOTO CAPTIONS

1. p 58. American PCH1 High Point experimental hydrofoil.

2. p 59. Israeli M161 (Shimrit) missile hydrofoil.

3. p 61. British P296 Speedy patrol hydrofoil.

4. p 61. Italian Sparviero class P421 Cibbio missile hydrofoil.

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COMMENTARY ON NATO ANTI-SHIP MISSILES

Moscow ZARUBEZHNOYE VOYENNOYE OBOZRENIYE IN Russian No 4, Apr 83 (signed to press 11 Apr 83) pp 64-69

[Article by Eng-Lt Col B. Semenov: "Anti-Ship Missiles"]

[Text] The military-political leadership of the dominant capitalist nations have been engaged in an arms race in recent years and are putting considerable effort into the development of missile weapons, including anti-ship missiles (PKR) for arming their navies. The Western military experts believe that anti-ship missiles are the most promising weapons for use against enemy ships.

According to the foreign press, achievements made in the 1960s in radioelectronics and the development of compact engines contributed to the development of specialized guided missiles (UR), which can destroy surface targets at long range and with great effectiveness.

Surface ships, submarines, planes, helicopters and coastal missile systems are now being outfitted with anti-ship missiles. This diversity of carriers makes it possible to employ missiles in diverse combat situations. Most of them can be launched from beyond active range of air defense weapons carried on ships. All the navies of nations in the aggressive NATO bloc have anti-ship missiles, and they are becoming increasingly widespread in other states. Interest in this type of weapons increased particularly following their successful employment in the British-Argentine conflict. The basic technical specifications of anti-ship missiles are given in Table 1.

The U.S. Navy has the Harpoon and Maverick guided missiles.*

The Harpoon (Figure 1) is of the normal aerodynamic shape. It has a cruciform wing and four collapsible vanes. The body, made of an aluminum alloy, consists of a nose section, a warhead, a sustainer engine and a tail section.

In the nose section are located an active radar homing head (GSN), an inertial system with computer, a radio altimeter and a power unit. The warhead (HE) is outfitted with a safety and operations mechanism and a delay fuse, which detonates it after it has penetrated into the interior of the ship. The sustainer

* This article does not deal with the American BGM-109B Tomahawk cruise antiship missile. For detailed information on this missile see ZARUBEZHNOYE VOYENNOYE OBOZRENIYE, No 2, 1982, pp 81-82. -- Editor.

Table 1. Basic Technical Specifications of Anti-Ship Missiles

Name and Designation	Weight (kg): Launching/ warhead (type)	Type of motor installation[1]	Maximum firing range (km)/ cruising flight speed (Mach number)	Missile dimensions (cm): body length+diameter+wing span/guidance[2]	Basic carriers
			USA		
Harpoon AGM-84A	520/225 (HE)	TJ	120/0.85	384+34+91/ combined (I, AR)	Planes
Harpoon RGM-84A	667/225 (HE)	SF TJ	120/0.85	457+34+91/ combined (I, AR)	ships, boats, submarines
Maverick AGM-65E	290/136 (HE)	SFJE	15/-	248+30+72/ semi-active laser	planes
			GREAT BRITAIN		
Sea Skua	around 150/ 30 (HE)	SFJE	22/0.95	285+22+62/ SAR	helicopters
Sea Eagle	830/230 (semi-armor-piercing)	TJ	100 plus/ 0.9	410+40+120/ combined (I, AR)	planes
			FRANCE		
Exocet MM-38	735/165 (semi-armor-piercing)	SFLA and SFJE	42/0.93	521+35+100/ combined (I, AR)	ships, boats, mobile coastal systems
Exocet AM-39	655/165 (semi-armor-piercing)	the same	70/0.93	469+35+110/ combined (I, AR)	planes, helicopters
Exocet MM-39 (SM-39)	660/165 (semi-armor-piercing)	the same	50/0.93	469+35+100/ combined (I, AR)	ships, boats, (submarines)
Exocet MM-40	850/165 (semi-armor-piercing)	the same	70/0.93	578+35+114/ combined (I, AR)	ships, boats, mobile coastal systems
Otomat	770/210 (semi-armor-piercing)	2 SFLA and TJ	80/0.9	446+46+135/ combined (I, AR)	ships, boats, planes, helicopters, mobile and stationary coastal systems
AS-15TT	100/29 (same)	SFJE	15/280 m/s	215+18+53/ elevation-range finder	planes, helicopters

1. Motor installation: TJ--turbojet engine; SFLA--solid fuel launch accelerator; SFJE--solid fuel jet engine.
2. Guidance system: I--inertial; AR--active radar; SAR--semi-active radar.

engine compartment houses a J402-CA-400 turbojet engine (TRD) weighing 44 kilograms, with a thrust of 273 kilograms and with an operating time of up to 15 minutes, and a tank holding 50 kilograms of fuel. The tail section holds the drive for the four vanes, which are installed in the plane of the wing bracket. The ship-based RGM-84A Harpoon guided missile has a solid-fuel launch accelerator (weight, 137 kg; thrust, 6,600 kg), which is secured to the tail section's base ring by means of explosive bolts. After it completes its function, the bolts are blasted off and the accelerator separates from the missile. The ship-carried anti-ship missile differs from the airborne AGM-84A in this respect.

The RGM-84A Harpoon guided missile is based on cruisers, destroyers, frigates, missile boats and nuclear-powered submarines. It can be launched from the organic launchers carried on surface ships (Table 2) and from torpedo tubes on submarines. The launching direction for the missile can differ by not more than 90° from the direction to the target. The Orion R-3C coastal patrol aircraft and the Intruder A-6 and Corsair A-7 deck-based ground attack aircraft are armed with the AGM-84A missiles.

The Harpoon guided missile is used in the following manner. After it is launched from a ship or submarine, the guided missile performs a zooming maneuver and then descends (Figure 2). The height of the flight path, which is maintained by means of a radio altimeter, is around 15 meters, dropping to 2-5 meters after the missile's homing head has locked on to the target.

The guided missile can strike the target straight in or from a dive. In the latter case the vertical maneuver is programmed into the computer's memory bank and in accordance with this, the radio altimeter is switched off around 2 kilometers from the target, the missile gains altitude and dives at the ship at an angle of around 30°. The beginning of the maneuver is programmed so as to frustrate radar tracking by the ship under attack, thereby preventing its destruction.

To increase the certainty of destroying the target, a single carrier performs a multiple-launching of the anti-ship missiles. The flight path is programmed in such a way that the missiles approach the ship from different directions, making it difficult to take counteraction. According to the foreign press, an aircraft carrier can be put out of commission by hits from 5 Harpoon guided missiles, a cruiser or destroyer by four and two missiles respectively, and a single missile can put a frigate or missile boat out of action.

It is planned to use the Harpoon together with anti-radar missiles for neutralizing the target's radar.

The development of a new model of the AGM-65E Maverick airborne missile for the Navy was completed in 1982. It has the normal aerodynamic shape and is armed with a semi-active laser homing head, which permits active firing day or night. The target must be illuminated by a laser beam, however, which, in the opinion of the Western military experts, considerably reduces the effectiveness of the guided missile's use in a complex combat situation. The HE warhead on the missile is almost 2.5-fold heavier than on the other models. The guided missile is designed for destroying surface ships. F-4 Phantom fighters and A-7 Cossair ground-attack aircraft are armed with the missile.

The STM supersonic anti-ship missile is being developed in the USA. It is to have a combination propulsion system (solid-fuel launch accelerator and direct-flow, liquid-fuel jet engine), which provides the supersonic flight speeds.

/Great Britain's Navy/ has the French Exocet missile and the British Sea Skua.

The Sea Skua is outfitted with a semi-active radar homing head. The target is illuminated with rader from the Sea Spray (frequency range, 8-10 gigahertz), which can detect small surfact ships and can function in a situation of organized radio jamming and signals deflected from the ocean surface. The missile's power plant is a solid-fuel engine with launching and sustained modes of operation, which keeps the missile at cruising speed at a height of 2-5 meters above the surface of the water.

According to reports in the foreign press, one missile has a 0.8 probability of sinking a ship with a displacement of up to 1,000 tons. The Lynx helicopters (see colored inset) are armed with the Sea Skua.

The guided missile is used in the following manner. After the helicopter reaches the target area, its radar detects and locks on to the target. The missile is ejected when the helicopter reaches the prescribed firing range. The engine is switched on when the missile is a short distance from the helicopter. After the engine completes the launching mode of operation, the guided missile drops to a height of 2-5 meters and the engine switches to the sustained flight mode. The homing head receives radar signals from the target and begins to guide the missile. The warhead is detonated by a contact fuse.

The Sea Eagle long-range (more than 100 kilometers) anti-ship missile is being developed in Great Britain. It will have a normal aerodynamic shape. It has a turbojet engine. It is planned to arm the Sea Harrier aircraft, Tornado fighters and Buccaneer bombers with the missile, and the foreign press has recently reported on the development of a model for submarines as well.

The /French Navy/ has the Exocet and Otomat guided missiles. The ASN and AS-15TT missiles are also being developed.

The Exocet was the first French anti-ship missile. There are presently five models: the MM-38, AM-39, MM-39, SM-39 and MM-40 (Figure 3).

The MM-38, developed at the beginning of the 1970s, has the normal aerodynamic shape and consists of an active radar homing head, an equipment compartment, a warhead, an engine and tail sections. The homing head can guide the missile in the final trajectory in a turbulence of 6 points, in a situation of radio counteraction and evasive maneuvering by the target.

The equipment compartment houses an inertial system, a radio altimeter and a unit for generating the control signals. The power unit consists of a sustained-flight engine and an launch accelerator. The tail section contains thermal batteries and the vane drive.

The semi-armor-piercing warhead is detonated by a contact fuse after the missile penetrates into the ship's interior.

The MM-38 missiles are kept in metal containers on ships and in mobile coastal systems, from which they are launched.

Following considerable modification, the AM-34, the initial airborne model of the Exocet missile, was designated the AM-39. Among other things, it was provided with an engine which operates on higher-calory, solid fuel. The sustained-flight engine on the AM-39 guided missile, with the same thrust as that of the MM-38, operates longer, and this makes it possible to increase the missile's firing range.

Since the missile is fired from aircraft, it has been given a new fairing and all of the compartments are now pressurized. The engine starts up after the missile has been dropped and is 10 meters away from the carrier. The inertial system is activated after the launch accelerator has completed its functioning, and the missile drops to the prescribed flight altitude. It flies at subsonic speed in the sustained-flight phase, but, unlike the MM-38 model of the missile, it can excede supersonic speed after the launch accelerator has completed its functioning.

The ship-borne model of the AM-39 missile, designated the MM-39, differs from the MM-38 in that it has collapsible vanes and wing. This has made it possible to considerably reduce the guided missile's dimensions. The SM-39 model is being developed, which can be launched from a submerged submarine. The guided missile is outfitted with a new on-board electronic computer, a collapsible wing and a stabilizer. It is housed in an air-tight capsule (5.8 meters long and weighing 1,350 kilograms together with the missile), which is torpedo-like in shape and dimensions.

The capsule containing the missile is fired from an organic 533mm torpedo tube and moves through the water with an inertial guidance system. A solid-fuel engine starts up when the missile has reached a safe distance from the submarine, with gas vanes for controlling its movement mounted in the exhaust nozzle. When the capsule reaches the surface, the fairing, including the launch accelerator, drops off, and the missile reaches a height of around 50 meters. The sustained-flight engine then engages, the guided missile descends and flies in the sustained-flight trajectory.

The above models of the Exocet missile are designed for striking at targets within the range of direct radar visibility. Because of the possibility of deck-based helicopters outfitted with special equipment for providing target information to ship-borne guided missiles, it was decided to develop an anti-ship missile with a beyond-horizon range.

This resulted in the development of the MM-40 Exocet missile (1 meter longer and 190 kilograms heavier than its prototype) out of the MM-39. The dimensions of the launching and sustained-flight engines were increased. The other assemblies are the same as on the AM-39 and MM-39.

The MM-40, with collapsible vanes and wing, is housed in a light-weight, fiber-glass container. This has made it possible to install four containers with MM-40 guided missiles on the frame for a single MM-38 container. The main direction

for the further improvement of the Exocet guided missile involves giving it survivability when overcoming future air defense systems.

Cruisers, battleships, frigates, missile boats, the Atlantique coastal patrol aircraft, the Super Etendard deck-based fighters and the Super Frelon helicopters, as well as mobile coastal systems, are armed with the Exocet guided missile. All of the models have the same flight path to the target, regardless of the carrier (Figure 4). The AM-39 missile's employment in the British-Argentine conflict was a brilliant example of its practical employment.

The Otomat missile (Figure 5) was developed jointly by the French (Matra) and the Italian OTO Melara firms. The former created the inertial system, the active radar homing head and the control system asemblies, while the latter produced the overall arrangement, the warhead and the power plant (together with the French [Turbomeka] firm). The French and Italian navies received the Otomat in 1974.

The Otomat guided missile, which has the normal aerodynamic shape, consists of five compartments: a nose section, a warhead, instrument, fuel and engine compartments. The nose section contains the active radar homing head and its antenna (which has a turning angle of 20°). The warhead section contains a detonator, a safety devise and a semi-armor-piercing warhead, which is capable of penetrating 40mm armor of a nickel-chromium alloy. It explodes after the missile has penetrated into the ship's interior. The instrument compartment contains the inertial system, a radio altimeter and a computer.

Table 2. Basic Specifications of Ship-Borne, Organic Launchers for Harpoon Guided Missiles

Specifications	Launchers			
	Mk112 ASROC	Mk11 Sam	Mk13 SAM Mk22 SAM	Container
Number of guided missiles per launcher	4	2	1	8
Number of missiles on a ship	8	6[1]	4[2]	8
Interval between launchings (s)	15	3	20	3
Time required to reload launcher on ship	20-30 min.	20 s.	20 s	not reloaded
Type of launching	solo	solo, multiple	solo	solo, multiple

1. This can be increased to 18 missiles.
2. This can be increased to 40 missiles.

The fuel section houses tanks of kerosene (87 kilograms) and oil. The fuel remaining in the tanks when the warhead explodes is ignited and produces additional destruction. Two solid-fuel launch accelerators are attached to the body of this compartment by means of explosive bolts. The engine compartment has a sustained-

flight turbojet (Arbizon-3) engine (fuel consumption--365 kg/h; missile flight range--up to 200 kilometers). It is reported, however, that the existing guidance system permits firing only at a range of up to 80 kilometers.

Frigates, missile boats, the Atlantique coastal patrol aircraft, the Etendard fighters and the Super Frelon and Sea King helicopters, as well as mobile and stationary coastal anti-ship missile systems, are armed with the Otomat missile.

The container (4.5 meters in length and 1.4 meters wide and high) holding the guided missile is mounted in a special rack on surface ships. The container's dimensions were reduced after the missile began to be produced with a collapsible wing, and two of the containers are now mounted in the rack. When the missile is employed from aircraft, it is suspended on ventral pylons, without the launch accelerators.

The Otomat is used in mobile and stationary coastal systems. The mobile system called the "Tezeo" in the Italian Navy, is hauled in 11 vehicles and two trailers. The stationary system, which has remote observation, can guard an area of coast 300 kilometers long.

The missile is employed in the following manner (Figure 6). Information on the locations of the carrier and the target and the distance to the target goes into the firing control system, after which the missile's flight program is calculated and fed into the computer.

After the missile has been launched and the launch accelerators have operated for 4 seconds, they are jettisoned from the missile. During that period of time the missile travels 600 meters and reaches a height of around 150 meters, and its speed grows to 1,100 kilometers per hour. The sustained-flight engine then begins operating. When the guided missile is launched from a surface ship or a coastal system, it must fly at a height of around 900 meters in order for it to receive information on the target. In the area of the ship under attack the guided missile drops to 20 meters, the homing head locks on to the target at a range of 12 kilometers, and at a distance of 7 kilometers from the target the missile climbs to 175 meters and dives upon the target. There is another flight mode, however, which is at a height of around 5 meters.

The foreign press reports that the need to transmit information on the target while the missile is in flight is due to the fact that the homing head's antenna has a small scanning angle, and a fast-moving ship can move out of range of the homing head while the missile is in flight. The entire flight trajectory may be carried out at a height of 20 meters, when the guided missile is launched from a plane or helicopter. It is believed that the combat capabilities of aircraft operating against surfact ships can be increased by outfitting them with Otomat anti-ship guided missiles and AS-37 Martel anti-radar guided missiles. The foreign experts believe that this will make it possible to first destroy the target's radar (the Martel missile) and then carry out the strike (the Otomat missile).

Two other anti-ship missiles, the AS-15TT (Figure 7) and ASN, are presently under development.

The AS-15TT has the normal aerodynamic shape. It is planned to equip it with a position-and-range-finding guidance system, the components of which--a transponder, a stabalization gyroscope, a radio altimeter and a decoding device--are housed in the missile, while the scanning radar is on the carrier. In the beginning the radar functions in the scanning mode, switching to automatic tracking after the target has been detected. The pilot must maintain a flight direction to the target whereby the guided missile comes into the radar's range after it is launched. The radar measures the angular position of the target and of the missile relative to the target, as well as the distance to both. Control signals are generated on the carrier on the basis of this information, which are then transmitted to the guided missile. Vertical guidance is accomplished by means of a radio altimeter. The missile is equipped with a solid-fuel engine.

It is planned to arm planes and the Super Puma helicopters with AS-15TT guided missiles. The creation of a mobile coastal system is being considered.

France and the FRG are jointly developing the ASN supersonic anti-ship missile. It is planned to equip the missile with a combined (inertial and active radar or infrared homing head) guidance system and a combined propulsion system. It is reported that the ASN will have a range of over 100 kilometers, as a result of which this missile will replace the Exocet and the West German Kormoran guided missiles. (to be continued)

PHOTO CAPTIONS

1. p 64. American Harpoon anti-ship missile.

2. p 66. Flight trajectory of Harpoon anti-ship guided missile as fired from various carriers: 1. Middle course of trajectory at height of 15 m; 2. Final stage of trajectory at height of 2-5 m; 3. Anti-ship missile flies until it encounters target or executes a zooming action as it approaches and dives at the target.

3. p 66. Variations of the French Exocet missile and the main components of one of them, the MM-38: 1. Tail section; 2. Launch accelerator; 3. Sustained-flight engine; 4. Warhead; 5. Program unit; 6. vertical gyroscope; 7. Radio altimeter; 8. Unit for generating the control signals; 9. Homing head.

4. p 68. Flight paths of Exocet anti-ship missile as fired from various carriers: 1. Middle course of trajectory at height of 15 meters; 2. Drops to height of 7 meters at distance of 12 kilometers from target and homing head activated; 3. Homing head locks on to target and missile drops to 2 meters.

5. p 68. French-Italian Otomat anti-ship missile.

6. p 69. Flight trajectory of Otomat anti-ship guided missile: 1. Target detected; 2. Information transmitted to carrier; 3. Information transmitted to missile; 4. Initial stage of trajectory; 5. Drop to 20 meters; 6. Zooming action and diving at target.

7. p 69. French AS-15TT anti-ship missile.

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U.S. NAVAL SHIPBUILDING EXPERIMENTAL FACILITIES DISCUSSED

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[Article by I. Belyayev: "Shipbuilding Scientific Research Centers of the U.S. Navy"]

[Text] In its militaristic preparations the military-political leadership of the USA is devoting constant attention to the development of the scientific and technological capabilities of its naval forces. One of the main scientific research institutions of the U.S. Navy, which conducts scientific research and special design work in the area of military shipbuilding and takes part in the development of designs for future ships and vessels, is the David Taylor Scientific Research Institute of Shipbuilding. It was formed in 1967 out of the David Taylor Model Basin in Carderock, Maryland, and the Marine Engineering Laboratory in Annapolis, Maryland. Its administration is presently located in Carderock.

The scientific research and special design work conducted at the center covers a broad range of areas: the development of new types of ships, research in the field of their survivability, control systems, noise levels of surface ships and submarines, power plants for ships, electronic computer software, and so forth. In addition, it studies hydrodynamics and aerodynamics and develops high-strength materials. Organizationally, the institute consists of several main departments.

The /Department for the Coordination of Ship Development/ effects the technological coordination of research and experimental work and is in charge of procuring experimental ship models. It is responsible for the technical supervision of programs for the development of hydrofoils and hovercraft, as well as semi-submerged ships (single-hull, catamarans and hybrids).

The /Shipbuilding Department/ tests new ship hulls and screw propellers.

The /Sonar Research Department/ measures and classifies the noises produced by surface ships and submarines.

The /Software Department/ deals with the development of methods for the mechanical designing of ships, as well as the analysis and assessment of these methods.

The /Department for the Development of Aircraft Systems and Apparatuses with Dynamic Support Principles/ conducts research for the development of new transport equipment.

The /Materials Development Department/ deals with the creation of new high-strength materials used in shipbuilding and the reduction of hull weights for surface ships and submarines.

The institute has considerable laboratory facilities, which make it possible to perform a broad range of practical tests, along with the theoretical research. Among other things, several experimental basins have been built there. Various hydrological conditions can be created in these for conducting tests(Table 1).

Table 1. Descriptions of Experimental Basins

Basin	Basin dimensions (m)			Wave dimensions (m)	
	Length	Width	Depth	Length	Height
Small	43.17	3.04	0.4-1.5	3.60	0.3
Shallow	92.11	15.50	3.04	" "	" "
Deep	843.60	15.50	6.7	12.16	0.6
High-Speed	902.30	6.38	3.04*	12.16	0.6
Maneuvering	72.96	109.50	6.1	12.16	0.6
Circular Canal	79.96 (diameter)	" "	6.1	" "	" "

* The basin is 3.04 m deep for 1/3 of its length, the rest is 4.9 m deep.

The basins (shallow, deep and high-speed) are located in a building 1,215 meters long. This makes it possible to prevent atmospheric conditions from affecting the results of the experiments. Special steps are taken to prevent the basins from becoming overgrown with water plants. They have pneumatic wave-generators, which can produce waves with various characteristics. The water level in the shallow basin can be altered to produce the conditions of rivers, canals and narrow straits. This basin is J-shaped, which makes it possible to study the maneuvering capabilities of the models.

Rails have been laid on concrete pads alongside the basins. Towed platforms with electric hydraulic drives move along these rails (Table 2). The direction in which these platforms move can be altered. That is, the models can be towed with turbulence simulated in any direction. The personnel performing the tests ride on these, along with the necessary equipment (detection, identification and location systems, flash lamps for measuring the speeds of the models, and so forth).

The maneuvering basin is used for tests involved in perfecting the hulls of surface ships and submarines, as well for defining their maneuvering and seagoing capabilities.

A circular canal (see drawing) is designated for testing high-speed models. They circle the canal, with no turbulence involved, at higher speeds and are subjected to greater stresses than in the other experimental basins.

In addition to the basins, the institute also has three alternating-pressure, hydrodynamic tubes for studying the development of cavitation in screw propellers, as well as circular hydrodynamic tubes for determining the optimal contours for ships and submarines, which are equipped with devices for observing and photographing the objects during the experiments.

Table 2. Characteristics of Towed Platforms

Basin	Platform weight (tons)	Towing speed (knots)
Small		6.0
Shallow and Deep	40.5	18.0
Deep	35.1	20.0
High-Speed	15.75	40.0
The same	45.0	55.0
The same	27.0	80-100

The American experts believe that, with its well outfitted laboratories and the large number of highly trained personnel (around 3,000 people), the David Taylor Scientific Research Institute occupies a leading place in the U.S. Navy's system of scientific research and special design work for shipbuilding. Its budget for the 1981 fiscal year was 180 million dollars.

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