

A GREAT VICTORY

This May the Soviet people celebrate the 30th anniversary of victory in the Second World War.

Victory in the Second World War was not only a victory over fascist Germany, which had enslaved nearly the whole of Europe. It was a victory over the bestial ideology of fascism, the ideology of misanthropy, of social oppression, of racial discrimination, and genocide. It was a victory of the forces of reason and light over the forces of war, darkness, and devastation. It was a victory bringing happiness of liberation to oppressed peoples, ridding the world of a brown pestilence.

Victory over fascism was an event in world history which had a most profound effect on the whole course of world development. It showed that socialism is the most reliable bulwark of peace, democracy, and social progress.

"The victory of the Soviet Union in the Second World War convincingly demonstrated the viability and invincibility of the first Socialist state in the world. It was the triumph of the new social and state system created by the October Revolution, of Socialist economics, of the ideology of Marxism-Leninism, the moral and political unity of the Soviet Society, the indestructible friendship of the peoples of the USSR. The main fabricator of this victory was the Soviet people, who accomplished a feat the like of which was not previously known in history. "...The Soviet people," stated L. I. Brezhnev, General Secretary of the Central Committee of the CPSU, "endured with honor the grim experience of war. The enemy was defeated and crushed. Our wonderful heroic, warrior people raised the banner of Lenin, the banner of the October Revolution, the banner of socialism, high in the sky and carried it victoriously, crowned with glory, through the fires of war."*

Time obliterates our memory of the less important events so as to consolidate in historical perspective and to emphasize the real landmarks and to determine the historical continuity of the epochs. Years, even decades, have passed but the historical importance of victory in the Second World War not only has not diminished but, on the contrary, has become even more obvious.

Those who participated in securing this victory handed to their successors not only the torch of work and struggle for the bright future of mankind, but also the torch of memory of that great exploit and of how the victory was forged. The task today is to carefully preserve that fame for history and to make undiminishable the heroism and selfless service to the motherland of those who gained the victory with their blood and labor. "No one forgets, no one is forgotten" — this motto resounds as a command and as an oath. The reader, turning over the pages of this journal, will recall once again with gratitude all those who, by their life and work, enabled him to live and to experience the joy of accomplishment.

The great victory was won at great cost, especially to the Soviet people. We lost 20 million people. After the end of the war there was hardly a family that had not cause to grieve the loss of kith and kin. The Hitlerites destroyed and burned more than 1,700 towns and more than 70,000 villages and hamlets. The total damage to the country was estimated at about two trillion six billion rubles. But the sufferings of the people enduring these horrors, the tears shed by the mothers, the visible and invisible sacrifices are inestimable and irreparable.

Victory for our country in this war was imperative: great was the heroism of the Soviet people directed by the Communist party. Even in the most critical periods of the struggle the people were confident

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of themselves, they knew that right was on their side, that the course of history could not be turned aside. Defeat for the country and death for the people that had known the unshackled toil and the steadfast conviction of the advantages of the socialist system were unthinkable.

The victory of the Soviet Union over fascist Germany was a natural result of the advantages of the economic and political organization of socialist society.

"The inspirator and organizer of the struggle of the Soviet people with fascist Germany was the Leninist Communist Party — the guiding and directing force of our society. Under extremely difficult conditions it succeeded in mobilizing the Soviet people for the holy war against the fascist aggressors and, despite temporary setbacks in the initial period of the military operations, it brought about a radical change in the course of the war and assured its victorious conclusion. The Party undertook truly titanic work for the reconstruction of the national economy on a war footing. By personal example, heroism, and courage, the Communists raised the fighting spirits of the masses, led them on to great exploits, and instilled solid confidence in total victory over the enemy. In the war years the authority of the Party increased immeasurably, its ranks were closed more closely, and the unity of the party and people became stronger."*

All the forces, all the resources, and all the potential of the country were mobilized for victory. The slogan "All for the front, all for victory" expressed the way of life of each Soviet citizen.

Soviet medical scientists — physicians, research workers, biologists — made their own important contribution to the universal task of victory. As a result of the medical service provided in the front line and in the base hospitals and of the selfless work of the doctors most of the wounded were returned to duty. Despite great difficulties due to the evacuation of large numbers of the population, insufficient accommodations, fuel, food, and medicines, the outbreak of epidemics in the country was prevented.

Under arduous conditions intensive scientific research continued and young doctors were trained. Many scientists went as volunteers to the front and actually worked in the front-line hospitals and in laboratories and base hospitals, conducting research into important problems of military medicine and urgent tasks of health care.

Eminent physiologists engaged in research into important problems of wartime such as the pathogenesis of traumatic shock, blood loss, and methods of their control (É. A. Asratyan); the feeding and nutrition of the wounded, and the assimilability of unusual food substances (I. P. Razenkov); the prevention of frostbite and mechanisms of hypothermia (V. N. Chernigovskii); regeneration of nerves, disturbance and restoration of functions of the injured nervous system and mechanisms of compensation (P. K. Anokhin, N. I. Grashchenkov, and P. S. Kupalov); the mechanisms of hypoxia and adaptation to it (E. M. Kreps, A. G. Ginetsinskii, M. E. Marshak, L. L. Shik); the mechanisms of action of the shock wave (I. S. Beritashvili). All this vast work was coordinated by L. A. Orbeli, V. V. Parin, and other eminent physiologists who had gone over to administrative work. Until the end of their lives, A. A. Ukhtonskii and A. A. Likhachev worked in besieged Leningrad.

Much fruitful research and practical scientific work was undertaken during the war by pathophysiologists. Under I. R. Petrov's direction, groups from the Department of Pathological Physiology of the Military Medical Academy investigated all aspects of the pathogenesis, prophylaxis, and treatment of traumatic shock, developed effective methods of overcoming shock in the wounded at various stages of evacuation, suggested an antishock nutrient fluid, plasma substitutes, dextrans, and protein digests. I. R. Petrov paid great attention to the study of the pathogenesis and treatment of hypoxic states. He proposed a classification for the various forms of hypoxia which was of great practical importance. A. N. Gordienko and coworkers studied the nervous reflex component in the pathogenesis of traumatic shock and tested various formulas for blood substitutes and methods of their administration. The work of N. A. Fedorov on the pathogenesis of blood-transfusion shock and various types of burn trauma was of great importance. N. A. Fedorov suggested new protein substitutes for blood (serotransfusin, colloid infusin), developed methods of parenteral protein feeding, and used an antiburn serum for treatment of burns. The pathogenesis of traumatic shock also was studied extensively by P. N. Veselkin, S. M. Pavlenko, and others. Various aspects of the problem of blood transfusion were studied during the war by I. I. Fedorov, S. I. Chechulin, and many others. V. A. Negovskii developed methods of resuscitation by intraarterial infusion of blood with adrenalin and glucose, accompanied by artificial respiration, and used them extensively at the front. Important research in the field of practical neurology was conducted by A. M. Chernukh.

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A. D. Speranskii and his collaborators conducted intensive research into mechanisms of injuries and the role of the nervous system in these processes and developed methods of prevention of toxic effects. The President of the Academy of Sciences of the Ukrainian SSR, A. A. Bogomolets, carried out extensive and important administrative tasks.

Soviet morphologists made an important contribution to the medical service. Some of the most eminent research pathologists of the country, A. F. Glazunov, N. A. Kraevskii, A. P. Avtsyn, Ya. L. Rapoport, D. N. Vyropaev, A. V. Smol'yanikov, and many others worked in front-line and army pathological laboratories. The pathological service of the evacuation hospitals of the USSR Ministry of Health was headed by I. V. Davydovskii. All pathological anatomists, including A. I. Abrikosov, M. A. Skvortsov, N. N. Anichkov, A. I. Strukov, S. S. Vail', N. A. Kraevskii, V. T. Talalaev, V. G. Garshin, and V. G. Shor took part in the work of pathological departments of the base hospitals. The subjects on which research was carried out by the pathologists included the study of the mechanisms of bleeding, gunshot wounds, wound healing, wound infection, trauma, and concussion. As a result of combined work by pathomorphologists and pathophysiologists, a more precise definition of the concept of "shock" was given to distinguish it from processes with similar clinical manifestations arising after trauma. The general morphological principles of wound healing were established, the special features of its course in different organs and tissues were identified, and the process of wound healing was studied in detail in various organs, in the central and peripheral nervous system, and in gunshot fractures. Combined teams of pathologists, pathophysiologists, and surgeons were set up to study shock and other problems in military medicine. The theory of wound sepsis and of pyoresorptive fever developed by Soviet pathologists (I. V. Davydovskii) was of great value. Important research was carried out on the study of the course of tuberculosis, pneumonia, hypertension, and other diseases under the conditions of the siege of Leningrad.

Soviet biochemists, continuing important research started in peacetime, concentrated on problems directly connected with defense of the country and its needs in wartime. Theoretical and practical problems to do with vitaminology and the organization of the vitamin industry (V. A. Éngel'gardt, V. N. Bunin) and the production of antibiotics, then only just beginning (A. E. Braunshtein, Z. V. Ermol'eva), were tackled, chemical analogues of various vitamins (for example, vitamin K) were created and used immediately for the treatment of the wounded (A. V. Palladin et al.), and work was undertaken on the use of vitamins as stimulants (V. A. Belitser et al.). Research into the biochemical mechanisms of the function of the blood and mechanisms of blood clotting under normal and pathological conditions was continued (S. E. Severin, E. M. Kreps, B. A. Kudryashov et al.) and this was of great practical importance. The biochemical basis of the pathogenesis of wound cachexia (S. Ya. Kaplanskii et al.), wound infections, gas gangrene (L. G. Smirnova), and other diseases was the subject of much research. The biochemistry of the then little known collagen diseases was then studied (V. N. Orekhovich et al.). The care of vegetables and other problems in technical biochemistry, of great importance in wartime, were studied (A. I. Oparin and his school). Biochemists took part in research into the production of therapeutic sera and other essential biological preparations, and worked in laboratories of military hospitals and in institutions directly serving the front. The very difficult work of biochemists (S. R. Mardashov, B. I. Zbarskii) on the preservation of V. I. Lenin's body earned them the gratitude and thanks of all the people.

Microbiologists and immunologists carried out extensive research during the war on the prevention of epidemics (T. E. Boldyrev, P. R. Burgasov, N. N. Litvinov, I. O. Rogozin), the study of individual infections (P. F. Zdrodovskii, N. N. Zhukov-Verezhnikov, A. P. Rudnev), the production of antibiotics (Z. V. Ermol'eva), sera, and vaccines (G. V. Vygodchikov, P. A. Vershilova, N. A. Gaiskii, I. N. Maiskii), and the study of the immunologic reactivity of the organism during exposure to extremal factors and after wounding (A. Ya. Alymov, P. N. Kosyakov, Sh. D. Moshkovskii, V. I. Ioffe, G. P. Tribulev, et al.). Soviet microbiologists were in charge of various medical services, specialized hospitals, and laboratories.

A prominent part in scientific and administrative work during the war was played by V. D. Timakov. It was in this period that the foundations were laid for his well-known investigations into variation of microorganisms and their L-forms, for which he was awarded a Lenin Prize.

The activities of Soviet pharmacologists and toxicologists were no less important. Many of them, who began their military service as regimental medical officers and in medical and hygiene units, later took charge of the chemical protection service of the Armed Forces. The toxicological service of the Ministry of Defense was headed by the well-known pharmacologist and toxicologist Yu. V. Drugov. The chief toxicologists of the Army and fronts were M. L. Belen'kii, M. D. Mashkovskii, K. A. Meshcherskaya, G. A. Stepan'skii, etc. The pharmacologists S. Ya. Arbuzov, I. K. Kamilov, G. N. Pershin, and K. S. Shadurskii

worked as directors and physicians of hospitals and medical and sanitation units and laboratories. A. I. Kuznetsov and V. V. Zakusov were active in training young pharmacologists. An important contribution to the task of gaining victory was played by the older generation of pharmacologists, toiling selflessly in the rear. A. I. Cherkes was the head toxicologist of the government health department of the USSR and made great efforts in the task of health and chemical protection of the population. N. V. Vershinin, N. P. Govorov, M. P. Nikolaev, and V. I. Skvortsov, who worked in research establishments and university departments, undertook searches for drugs essential to the country in wartime. Under N. V. Vershinin's direction an extensive study was made of the medicinal flora of Siberia, as a result of which many new and valuable drugs were obtained. Despite the arduous conditions of war the pharmaceutical chemical industry succeeded in organizing the production of important drugs; the Army and health services obtained essential supplies of general anesthetics, procaine, sulfonamides (streptocide, sulfidine, etc.), cardiac and other necessary drugs. Pharmacologists gave great assistance in this work by organizing the study of these preparations, their biological estimation, and so on. V. I. Skvortsov prepared a new edition of his book "A Course of Pharmacology," specially oriented to the problems of wartime; many of its sections dealt with the use of drugs under front-line conditions. The book was published in 1943.

Although all the efforts of scientists were dedicated to the solution of the urgent tasks of military medicine and to satisfying the needs of wartime, work on the study of fundamental problems in theoretical medicine was not brought to a halt, and monographs and scientific journals continued to be published. Pavlov's school continued its research into higher nervous activity, and L. A. Orbeli's ideas on evolution, A. A. Bogomolets's on the physiology and pathology of connective tissue, A. D. Speranskii's on the role of the nervous system in pathology, and N. N. Petrov's on experimental oncology were developed. During these same years the foundations were laid for L. A. Zil'ber's future theory of the viral genesis of cancer and of the modern science of nucleic acids (A. N. Belozerskii). A year before the war ended, by decree of the Soviet government the Academy of Medical Sciences of the USSR was created on the basis of the All-Union Institute of Experimental Medicine, some of its principal Institutes were founded, intensive research was initiated, steps were taken to train staff for experimental and clinical medicine and biology in order to solve the new problems that would arise in connection with the reconstruction of the country and its postwar development.

The last war taught us some vivid historical lessons. It showed that the politics of force is doomed to failure, that aggression even by the most powerful adversary, whatever his initial fighting strength, must end with his total collapse, that ultimately victory will rest with the peace-loving people, insisting on their right to live in freedom and independence, and with a socially progressive and just system that will lead mankind to a prosperous future. This must be the lesson for all militaristic powers ready to plunge mankind into the abyss of a new war and to provoke armed conflicts.

The last war showed that countries with different social systems can not only coexist, but can also be allies in the struggle against the common enemy, when the fate of mankind as a whole is at stake. It showed how powerful the forces of progress can be if they are united by the common idea of the fight against forces of destruction and death. This lesson must be the call for mankind on the threshold of the last quarter of the 20th century confronted with the global problems facing the whole world. It must be the call to the struggle against common enemies — diseases that have not yet been conquered, pollution of the environment, poverty, hunger, shortage of resources of energy in various parts of the world. In the common fight for human health an important role is destined to be played by scientists — medical and biological scientists, physicians, health workers in all countries of the world. Scientific contacts between workers in different countries are increasing continuously in number and scale, as well as in usefulness; strong joint scientific groups and centers for the study of fundamental problems in biology and in theoretical and practical medicine are being created. This growing unity of scientists throughout the world, this uniting of the forces of peace and progress, is a guarantee of success in the struggle for human health.

The call for the establishment of lasting peace on earth, for making another war impossible, and for the struggle for social progress and the happiness and health of all peoples is made to us by the Communist party and the undimmed memory of those who gave their lives for the sake of life and social justice on our planet.