

Action on the Northern Front

Major Allen Johnson reports on the military operations in Finland and the tactics of the Red Army in supporting the Finnish People's Government.

THE immediate political aim of the USSR in Finland is to drive out the Mannerheim-Kallio-Ryti regime of "bankers and business men," as the London *Daily Telegraph* calls it, so that the People's Government can reestablish democracy for the Finnish people. The strategic objectives following from this are: (1) to prevent the arrival of supplies and assistance to the White Guard Finns; (2) to break their resistance.

In facing the tactical problems involved in this campaign the Soviet and Finnish People's Army troops must consider the following facts: (1) The frontier line from the Gulf of Finland to Petsamo Fjord is about a thousand miles long. (2) This frontier is serrated by thousands of lakes and the entire country is covered with heavy timber. (3) The northern sectors have few roads and no railroads. (4) The Karelian SSR has only the Murmansk Railway and a few connecting roads to use as the main artery of transportation. Taken as a whole, especially with the bitter sub-zero weather, this entire front is not a favorable military objective. In fact this terrain is about the most difficult in the world and this winter campaign is the most difficult that has ever been undertaken under similar circumstances.

The Soviet General Staff decided to carry out its strategic aims by blockading the Gulf of Finland. But since the Finns hold the Aland Islands and have been aided by Swedish reactionaries, the difficulties of entering into the Gulf of Bothnia have rendered the sea blockade incomplete. On the land side the Soviet intends to cut Finland off from her railway connections with Sweden (her main source of supplies and "volunteer" aid) by driving down from the Petsamo Peninsula along the only good highway to Tornea (1 on map) and by driving across the waist of Finland on a Kandalskaya-Salla-Tornea line (2). A third drive for the same purpose is in progress from the Repola sector on a Suomussalmi-Uleaborg line (3); this drive roughly follows the railway line from Nurmes to Uleaborg. The success of any one of these drives will assure the success of the others. This will split Finland in half, cut her off from her land communications, and permit Uleaborg to be used as the starting point for a new drive down into the industrial and more heavily populated areas of southern Finland. It will also give the Soviet-Finnish troops the advantage of better roads and the use of the railways.

In the southern sectors, however, lies the greatest concentration of troops. Soviet troops have crossed the frontier into Finland throughout the Repola sector from Sortavala north to Suomussalmi (4). Here the

Soviet forces will eventually outflank the Finnish White Guard troops along the Mannerheim Line, taking Viborg and permitting rapid movement along well developed arteries of communication to Helsinki and the interior. In the south the Finnish reactionaries have long had excellent position defenses. The Mannerheim (Kirk?) Line (5) is not so much a line of defense as an organized position in depth. Thus the fact that the Soviet forces have penetrated it in several places does not immediately mean that the line of defense has been broken; there are still new defenses to be taken. The Soviet staff will not attempt any wild assaults upon such defenses because the expenditure of life will not be warranted. In all probability methods of infiltration will be tried across the frozen surface of Lake Ladoga while coordinated flanking attacks are carried forward in the direction of Sortavala and the railway.

Fighting north of Suomussalmi is in the nature of guerrilla warfare on both sides. Most probably, there are no more than three Finnish divisions (approximately 45,000 men) from Suomussalmi north to Petsamo, while the Soviet has hardly twice that. There is no line here and it is quite possible that patrols will cross into each other's territory without even coming into contact. In warfare of this sort, spread over hundreds of miles in such adverse weather conditions, small troop units operate from block houses. The columns moving across Finland will have to construct their own roads and bring forward their own supplies as they proceed. This will mean a steady, well prepared advance without any fanfare and in the face of innumerable obstacles.

NOT BLITZKRIEG

It is necessary to state that the Red Army tactic has nothing in common with *Blitzkrieg*. The policy as enunciated in the Field Training Regulations of the Red Army is that an offensive must be carefully prepared to permit the proper integration and use of all arms, that the offensive itself must be steadily pushed forward with *increasing* strength as the thrust goes deeper. The Red Army staff understands that the deeper the thrust goes the greater will be the resistance. It therefore expects to put forth its greatest effort at this point, not only to defeat the enemy but to destroy him throughout his dispositions.

The naval and air forces of the Soviet have had independent missions throughout the operations—to destroy the centers of resistance in the rear, to dislocate the transportation system, and to prevent the free passage of men and supplies from Sweden to the front. Actually the civilians have been evacu-

ated from the threatened centers; today there are merely the necessary elements to handle supplies for the White Guard forces at the front in the cities of Viborg and Helsinki. Finland's airforces are very small and even with the planes that may be given her by reactionary supporters abroad she cannot overcome the Soviet air superiority.

There have been very few serious engagements. This is proved by the fact that after three weeks of fighting both sides officially reported about the same casualties—approximately two thousand killed and ten thousand wounded. The fantastic American press reports of Soviet troops killed and wounded are more fantastic in view of the fact that these have all been reported in the central and northern sectors where the fighting is hardly of the sort to justify wild surmises. There will be more serious engagements in the near future, however; the winter war is not over as the Finns are reported saying.

RATIO OF FORCES

Since the ice has frozen hard on the lakes the Red Army's transport problem is less difficult. In addition the proportion of Finnish troops to Soviets is about twelve to twenty-five divisions, roughly two to one in the Red Army's favor. Since these twelve divisions are about all the Finns can put in the field, any casualties they suffer mean much more to them than similar casualties mean to the Red Army. Further, the Finnish troops, especially in the north, can be getting very little relief and rest. All these factors will soon begin to tell; they will vitally aid the impending drive to terminate the war.

Wall Street's investments in the International Nickel Co. and the American newspaper publishers' need for Finnish paper pulp have played no little part in the press' hysterical support of Britain's long-range intervention program against the USSR. The second imperialist war has started where the first left off. An increasingly bad press may be expected with regard to Soviet military and political actions. Should the fall of White Guard Finland appear imminent it is possible that Scandinavia will intervene directly. This would convert the Finnish incident into a major theater of war, particularly if the Allies and the USA support the activities of the Swedish reactionaries and their Social Democratic bootlickers. Meanwhile, caution must be used in accepting the reports of the typewriter tacticians, whose knowledge of war is limited to what they are permitted to read in the handouts from the propaganda bureaus of reactionary juntas in Helsinki, Oslo, Stockholm, and Copenhagen.

MAJOR ALLEN JOHNSON.



SOME OBJECTIVES IN FINLAND. The highway to Tornea (1) brings Swedish and Italian "volunteers" to aid Mannerheim as well as equipment to be used against the Finnish People's Government and the Red Army. The Soviet plans to cut it by driving across the Kandalskaya-Salla-Uleaborg line (2). A third drive in the campaign is going on via the Suomussalmi-Uleaborg route (3). In the south, Soviet troops have crossed through the Repola sector from Sortavala north to Suomussalmi (4). No wild assaults, wasting men, will be taken against the fortified positions of the Mannerheim-Kirk Line (5).

Haldane on the Nobel Prizemen

The scientific prizes for 1939 assayed by the noted English bio-geneticist and Marxist.

EVERY year the Nobel prize award committee in Stockholm gives prizes for chemistry, physics, medicine, literature, and peace. The prize money is derived from the profits made in the manufacture of explosives. Although there may have been occasional mistakes, it is generally admitted that in most cases the scientific prizes have been justly awarded.

The 1939 prize for chemistry is divided between Adolph Butenandt of Berlin and Leopold Ruzicka of Zurich, for their work on sex hormones. These substances are responsible, among other things, for the changes which occur in men and animals at puberty. Thousands of years ago, probably in the neolithic age, it was discovered that if male animals were castrated, they did not develop normally. They are almost always tamer, and in some cases very different in appearance. Anyone can tell an ox from a bull.

But only in this century has the process been reversed, so that a boy who has not developed normally can sometimes be enabled to do so. Gallagher and Koch in Chicago concentrated a substance from bulls' testicles which would make the combs of capons, castrated roosters, grow again. Their preparations were active. But they were not pure, any more than beer is pure alcohol, or opium pure morphine. Butenandt was the first to obtain a substance of this kind in pure form, and determine its chemical composition. Ruzicka did the same with other gland secretions which have similar effects. In addition they have worked on the substances which play a like part in the female sex, both in connection with puberty and pregnancy.

A BLOW FOR QUACKS

Thanks to Ruzicka, these substances can be made in a factory by the transformation of much commoner substances. There is now no need to work up ten tons of male urine,

as Butenandt did, in order to obtain a fraction of an ounce of one of them. Ruzicka has also worked on synthetic perfumes and many other topics in organic chemistry. Now that these substances have been isolated, there is no excuse whatever for treating human beings with ill-defined extracts of animal "sex glands," as they are described in advertisements. The pure hormones are far from being cure-alls, but are definitely useful in some cases.

Dr. Ernest O. Lawrence of California got the physics prize for his work on atomic nuclei. Rutherford first showed that these are sometimes transformed, so that one element is turned into another, in very small quantities, of course. His pupils Cockcroft and Walton accomplished this process by artificial means. In an electric field of about half a million volts they got the nuclei of hydrogen atoms moving so quickly that they actually penetrated those of other elements and united with them. Thus nitrogen atoms were formed from carbon, and so on.

Lawrence invented an apparatus called the cyclotron, which, for some purposes at least, is more efficient than Cockcroft's and Walton's apparatus. Many of the new types of atom formed with its use are strongly radioactive. Some of them seem likely to be of as much value as radium emanation in treating cancer. Others are being used to solve biological problems in another way.

Biologists have long wanted to know how quickly the substance of our bodies is replaced. For example, are the bones of an adult composed of the same atoms when he is sixty years old as when he finishes growth at twenty? If you feed an adult rat with sodium phosphate containing radioactive phosphorus you soon find some in his bones. This means that the bones are constantly exchanging atoms with the blood. In other words, during life the form of the bones is not like that of the parts of a machine, but is kept steady by means

of constant change, like the form of a candle flame or a waterfall.

The prize for medicine went to Dr. Gerhard Domagk, who works for the Interessengemeinschaft der Farbenindustrie, the great German chemical monopoly. He found that a red dye called prontosil, made by Miesch and Klarer of the same firm, would cure mice of infections which would otherwise have killed them.

ANTISEPTICS

All antiseptics are somewhat poisonous to men and animals, some of them very much so. Mercuric chloride and iodine are all very well for disinfecting cuts, but if swallowed, they will kill a man long before they kill all the germs of disease in his body. Prontosil and other drugs of similar composition, such as sulfanilamide and sulfapyridine, are dangerous, and have killed a few people. But they have been extremely successful against puerperal fever, pneumonia, gonorrhoea, and some kinds of meningitis.

Ewins and other workers employed by the British firm of May & Baker have produced a particularly useful remedy related to prontosil. But it is impossible at present to say which of the competing drugs of this group will finally be used. Some of the best are very expensive, because they are protected by patents. Hence doctors may prefer to use a less efficient drug which costs less because it cannot be patented. This means a sacrifice of life to profits which is inevitable so long as research on drugs is carried out by firms, and not by hospitals or government laboratories.

It is worth noting that two prizes were given to Germans, although when the peace prize was given to Carl von Ossietzky some years ago, the Nazis objected, and stated that in future they would give their own prizes. Both Butenandt and Domagk are organic chemists, concerned with the patterns in which atoms are arranged. The Jewish chemists in Germany were most successful in studying chemical changes: either in the factory, like Haber, who showed them how to fix atmospheric nitrogen in 1914-18, and thus prolonged the war; or in living beings, as did Warburg, who found out how cells breathe.

German science has suffered severely from the Nazi dictatorship, and will suffer worse in future, because the supply of young men and women has been severely cut down. But especially in the field of organic chemistry, a number of first-rate men still remain.

J. B. S. HALDANE.

A Scientific Arm

Professor Haldane, besides talking politically to workers and writing for the London "Daily Worker," is also active in the defense of Great Britain's people as this poem which appeared originally in the English "New Statesman and Nation" shows.

"What, teacher, can that object be inside a plate-glass drum?"
 "It is Prof. Haldane whom you see, testing a vacuum."
 "Why are they hurling bombs so near that shelter made of tin?"
 "That is a bombproof test, I hear, Prof. Haldane is within."
 "Oh, look! From yon balloon so high what dangles large and limp?"
 "It is Prof. Haldane, we espy, air testing from a blimp."
 "See driving near the waterside that buoy of strange design!"
 "That is Professor Haldane, tied, decoying of a mine."
 "On sea, on shore and in the air, protecting us from harm,
 "Prof. Haldane meets us everywhere—our scientific arm."

SAGITTARIUS.

Sic Transit Ginsberg

"**G**EN. WALTER G. KRIVITSKY, former Soviet Russian military intelligence chief in Western Europe, fled with his wife and son, Alexander, from the United States on Tuesday, federal officials disclosed yesterday, less than a week from the time he was to have been deported for having overstayed his leave. Neither the Krivitskys' destination nor their means of transportation was divulged."—N. Y. "Herald Tribune," Dec. 30.