A MEDICAL REVIEW OF SOVIET RUSSIA.*

V.—THE MEDICAL PROFESSION, SOVIET
SCIENCE, AND SOVIET SANITATION.

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PART III.

WORK AND ORGANIZATION OF THE PUBLIC HEALTH
DEPARTMENT.

As the public health department (Narkomzdrav)† in Russia is an innovation of the Soviet Government—there was none under the Tsar—its organization and work merit some description.

The Narkomzdrav is under central control and in close relation with the other branches of the Government. The Commissar (Minister) of Health, Dr. N. Semashko, is also a member of the "Tsik"‡ or Central Executive Committee, which constitutes the pinnacle of power in the Soviet Government, having for its other members the other people's commissars (Ministers), Zinoviev, Trotsky (formerly), Lunacharsky, Rykoff, etc. Each State has a public health department, or Gubzdrav, at whose head is usually a Communist doctor having control of the public health affairs of his district and responsible to the central authority.

The work of the Narkomzdrav is divided among departments, each administered by a competent physician: (1) sanitary-epidemic, including sections for tuberculosis, syphilis, malaria, etc.; (2) therapeutical; (3) department of sanatoriums; (4) war sanitation; (5) railroad and steamship sanitation; (6) maternity and child welfare; (7) care of youth, including departments for athletic sports and physical culture; (8) control and organization of scientific research work. Practically all of the medical work in Russia is under the Narkomzdrav, but the medical schools are under the People's Commissar of Education, Lunacharsky. The post-graduate courses for doctors, however, are under the Narkomzdrav.

The work of the various departments is unified and co-ordinated by the central control and frequent conferences. It has obvious advantages over the former poorly organized work under the Tsar. Professor A. A. Vladimiroff, director of the Institute of Experimental Medicine, said: "Under the old system, that now being done by the Narkomzdrav was inefficiently handled by fourteen different organizations, which had no connexion one with the other." Each department of the Narkomzdrav has a scientific section with laboratories for research to direct the practical work. For example, the tuberculosis section has a central scientific institute in Moscow under which are many branch institutes in different parts of Russia. These laboratories are not fully established in all the departments, and some years will be required for the complete elaboration of this new plan.

Dr. Semashko, the head of the Narkomzdrav, who has the twofold duty of being a Communist leader and of caring for the health of a territory occupying one-half of Europe and one-half of Asia, was a country doctor on the middle Volga (Samara) before the revolution. He is an energetic and efficient organizer. He has won the admiration of all, including even political foes, by his integrity and justness. In outlining his work to me, he said:

"The present tendency of our work is prophylactic and sanitary—education of the peasant and workman to care for himself. This was entirely neglected under the rule of the Tsar. The whole popula-

tion will be brought under medical examination and sanitation, by means of our newly installed medical points throughout the country, and the polyclinic and dispensary. In these we have also a complete system for carrying on social welfare work."

To illustrate, I will outline the work of several of the departments of the Narkomzdrav.

The antituberculosis work is modelled on the Edinburgh scheme, and is indirectly indebted to Sir Robert Philip for its inspiration. Besides the organization of medical points, ambulatory, dispensary, and polyclinic groups designed to care for prophylaxis, treatment, propaganda, etc., there were organized in 1922 in every large institute a system of "cells" or units claimed to be original in Russia. They are made up of workmen—voluntary workers—who are members of the organization to which they belong. The units are of various kinds—tuberculosis, venereal, sanitation (ventilation, heating), maternity, etc. The work consists in the distribution of educational health pamphlets, the carrying on of public health campaigns, the detecting of the sick and bringing them to the physician, and so on. By thus shifting part of the responsibility on to the working man, he is taught to take an interest in and have a care for his own health. The principle involved is that of Dr. Semashko: "The health of the working masses should be in the hands of the workmen." Patients detected by the medical units are sent to the ambulatories, which exist in every factory and important institution, for first aid and preliminary examination, and if more attention is needed, the physician sends them on to the polyclinic or dispensary. Each dispensary consists of a medical and a social section. The latter investigates homes, sanitation, registers social and infectious diseases, and carries on educational propaganda. Separate departments exist for children, the youth, tuberculosis, venereal disease, obstetrics, etc.

In connexion with the dispensary, polyclinic, and medical "cells" are the Councils of Social Help, consisting of the staff of the dispensary and of representatives of trade unions, factories, schools, and Government departments. Their duty is to provide help for the individual patient.

The following is a quotation from Professor A. A. Vladimiroff, to whom I am greatly indebted for other explanations in regard to public health work in Russia.

"Before the revolution there was no systematic fight against tuberculosis in Russia. In 1918 there was organized for the first time a special department for tuberculosis in the Narkomzdrav. Once a year there is a tuberculosis week; the newspapers, schools, museums, cinemas, present the subject to the public; pamphlets and posters are distributed. Educational propaganda is now one of the chief factors of the work."

Dr. Semashko, in commenting on the work against syphilis, said to me:

"Prostitution, which is one of the greatest causes of syphilis, has been officially prohibited by the Soviet Government and is punishable by fine. There are now no houses of prostitutes in Russia. A vigorous campaign is to be made again this autumn against venereal disease. Women's organizations are finding employment for the prostitutes. Although there are still some places in Soviet Russia where syphilis is very prevalent, there is less in the Red Army than there was in the Tsarist Army."

Malaria, now three times more frequent than in pre-war times, is demanding the attention of several branches of the Soviet Government. Before the revolution there was no systematized campaign against this disease. The methods enforced under the initiative of the Narkomzdrav are: (1) obligatory registration by card of the sick; (2) the establishment (in 1922) of an institute in Moscow for professional study of malaria with branch institutes in the large cities; (3) the opening of 113 antimalarial stations between 1921 and 1925; these constitute the primary units, and consist of dispensary, a small section for clinical observation, a laboratory, and a museum for sanitary instruction; (4) direction of the work by a central commission in Moscow with subcommissions throughout Russia; (5) compulsory co-operation of the other Government departments; (6) propaganda by instruction in the schools, cinemas, newspapers, and factories; (7) exemption of quinine from taxation and the distribution of a certain amount free (10,000 kilograms in 1923). In 1922, 8,000 kg. of quinine were imported; in 1923, 12,000 kg.; in 1924,

* Previous papers on medical and scientific work in Soviet Russia by Dr. Horsley Gantt were published in the BRITISH MEDICAL JOURNAL in 1924: I, A Review of Medical Education in Soviet Russia, vol. i, p. 1055; II, Hospitals and Health Conditions, vol. ii, p. 336; III, Scientific Work, vol. ii, p. 533. The first part of section IV, on "Change in type and incidence of disease," was published on August 14th, 1926, p. 303; Part II of this section was commenced on October 23rd (p. 747) and concluded on October 30th (p. 802). Part I of Section V was published on January 29th, 1927 (p. 198), and Part II on February 5th (p. 244).

† Narkomzdrav = official abbreviation for Narodny Kommissariat Zdravoochraneniia (People's Commissariat of Health).

‡ Tsik = abbreviation for Tsentralny Ispolnitelny Komitet.

60,000 kg.; but, according to Dr. Dobretzer, four times this amount was needed.

The physico-therapeutical section of the Narkomzdrav was established in 1924. Dr. N. S. Zvonitsky, its chief, described its work to me as follows:

"During the war four physico-therapeutical institutes were built, but now we have over a hundred, and in the next two years we plan to build fifty more. We have received one million roubles from the central Government for this, and we shall receive three times this amount from the local governments where they are erected. Three million treatments were given in 1924. Our work is chiefly with the factory employees. In villages where we have no institutes we are beginning to teach the peasants to make use of natural agencies, as sun and air baths. The plan is being evolved by a central commission in Moscow for the whole of the U.S.S.R."

Dr. N. Kishkin, formerly Minister of the Interior under Kerensky, and now chief of the health resorts for the whole of Russia, said (1925) of his work:

"After the revolution we have many more diseases in Russia than formerly, and diseases that we never had before. The order of occurrence of these in our sanatoriums is: tuberculosis, bone diseases, nervous diseases, mostly functional, and stomach diseases. During the famine we had markedly fewer stomach ailments than now. The occurrence of syphilis this summer (1925) in our health resorts was 1.1 per cent. of the total number of patients—a decrease over previous years."

"We are doing ten times as much prophylaxis as before the war, through our tuberculosis and venereal institutes and dispensaries. We are doing less treatment because of the lack of drugs, equipment, and money. But the work is progressing. Although we have had workers in our sanatoriums for four years, we have had this year for the first time many thousands of peasants, and will have more next year." [The sanatoriums have been almost exclusively for workers and Communists, who receive maintenance free of charge.] "Many of our palaces are now turned into sanatoriums."

When I asked him about the relative position of scientific work in his department, he said:

"We formerly had no commissariat for health and no scientific work in the sanatoriums. For two years scientific institutes have been attached to the health resorts. There are central parent institutes in Moscow, where laboratory specialists work during the winter in conjunction with our therapists, planning the work for the summer. There are balneological, hydrological, and climatological sections at work. Before the war the sanatoriums were private, and the best doctors did not have charge of them; now the foremost surgeons and physicians are sent from Moscow, Petrograd, etc., during the summer to carry on the work."*

Care of Youth: Athletics.

After the revolution, children's homes, intended to care for the entire child population, were instituted, but these have been abandoned, so that there remain only homes for certain organizations, such as those for the orphans of peasants and workmen. Their condition is remarkably good compared to what it was when I visited them three years ago (1922-23). Besides the drilling in Marxism and antireligious formulae, the inmates are being taught personal hygiene and given systematic scientific instruction. This type of institute is entirely new in Russia.

In old Russia there was a lack of almost every form of sport. In the short space of three or four years its development has been phenomenal; athletics are now general in the large cities and institutes, and are spreading all over Russia. I have seen in villages two thousand miles away from the great centres boys playing football; and in the large cities great numbers of boys and girls engaged in football, games, rowing, swimming, and foot races—many more than there were two years ago.

The Highest Soviet of Physical Culture is under the control of the Narkomzdrav and of the Narkompross (Department of Education). It has charge of physical culture in Soviet Russia. Mr. H. A. Anderson, of the European Student Relief, who has been responsible for the introduction of physical culture in the universities, has given me the following account (October, 1925):

"Physical culture is compulsory (on paper) in every school, from the lowest to the university, but is not carried out on account of the lack of funds, leaders, and programme, except in the large cities. In the whole country there is not a modern gymnasium, an indoor track, or an indoor public swimming pool."

"At first the Soviets allowed no competitive games, and tried

* The total number of patients at the health resorts is now less than before the war, but this is attributed to the need of repairs and the lack of money of the individual. Most of the beds are occupied by Government officials, members of unions, etc., whose expenses are paid by the Government or unions.

to make the gymnasium supreme over sport, to agree with Marxian politics; however, this was impracticable, and now competitions predominate. There are two schools (Moscow and Leningrad) for training teachers of physical culture, with 600 students. The best physical culture is being done in the factories, where gymnastics is more general than in American factories, though not so well conducted as in the best American. School gymnastics are as yet poorly organized. Courses for physical culture are now, for the first time, conducted in Russia. One can judge of the progress of athletics by the record of the Russian soccer team, which ranks among the best three or four in the world, although this game was almost unknown in Russia six years ago. Other sports, however, have not developed so remarkably."

Propaganda.

One of the most successful efforts of the Narkomzdrav has been its propaganda for personal hygiene and against disease. I have seen placards of exhortation, not only in all public places, trams, etc., but in the reading rooms in small villages; and in the newly established peasants' and workers' clubs there are pamphlets and books on hygiene and infections. Several cinema films of educational and scientific value have been worked out. Among those which I have seen are "Abortion," explaining the dangers of irregular abortions; "Rejuvenation," explaining the Voronoff and Steinach operations; "Conditioned reflexes," dealing with the work of the Pavlov laboratories. These are shown to the general public. They contain scenes which, though entirely represented from the scientific point of view, would not be permitted in America—for example, full details of the birth of a child, sexual intercourse in animals, lunatics, etc. This shows both the naiveté and the freedom from prudery of the Russian mind.

Dr. Semashko, in commenting on the work of the Narkomzdrav to me, made the following observations: The present bad health conditions are largely the result of the lack of education dating from the imperial period and the effects of the famine. Prophylaxis by educating the people, which is one of the cardinal principles of the public health work at present, was forbidden under the rule of the Tsar. Trachoma and other such diseases were not combated then; there were no laws regulating working hours, nor rest homes for mothers, nor participation of workers in public health matters as at present, nor dispensaries. The death rate is now below that of 1913; infantile mortality, which was higher in Russia than in any other European country, has diminished from 25 per cent. before the war to 12 per cent. in Leningrad and 13.7 per cent. in Moscow; health officers are being sent into the villages; abortions, though legalized, are regulated, and are fewer than in other countries; there are now 1,699 country medical stations, against 1,338 before the war; the average radius of a doctor's practice is now 11.2 km. compared with 13.1 km. before the war; the Soviet Government gave 10,125,000 roubles in 1925 for the construction of hospitals and public health work. The campaign against prostitution illustrates the general trend of the work. "The battle against this social evil is against prostitution and not against the prostitutes. It proceeds on two lines: first, the relief of the unemployment of women and the prevention of vagrancy among women and children, and secondly, against houses of prostitution and their proprietors."*

CONCLUSION.

As a matter of historical interest I have described the past life of the Russian scientist. As regards the future, I have quoted the opinion of leading scientists both pro and con.

Scientific working conditions as well as general living have gradually improved during three years: for the last year there has been a marked improvement. There is no doubt in my mind, after nearly four years of intimate acquaintance with Russia, that the Soviet Government desires in every way to aid science. Its attitude, though coloured by the enthusiasm of the officials for Marxian politics, is comparatively liberal and generous, and is becoming more so. Though the Government is at present in financial straits, funds allotted to scientific work are being increased. There is a question, however, as to the extent to which their methods will produce practical results, in view of the

* The account in the above paragraph is derived from personal interviews with Dr. Semashko, and also from the *Weekly News Bulletin* of the Society for Cultural Relations with Foreign Countries.

changed living and social conditions under which scientists have to work. They are now treated with favour, and though they have suffered it has not been on account of any direct action against them. Their present economical condition compares favourably with that of other countries, if one makes allowance for the difference in the standard of living in Russia. While there has been deep gloom and pessimism as to the future of science in Soviet Russia, there seems to be a slowly growing optimism.

The newly organized public health department—the first worthy of the name in Russia—has shown interesting and energetic developments under the able leadership of Dr. Semashko. The extreme conditions under which it has had to work make difficult a judgement of its efficiency.

In the next (and concluding) article of this series I shall give details of the work of some of the scientists of Russia.

TUBERCULIN IN THE PROPHYLAXIS AND TREATMENT OF TUBERCULOSIS.

THE control of an infectious disease may be attempted in two ways: first, by exterminating the germ which causes the infection; secondly, by immunizing, or raising the resistance of, potential sufferers from the disease. In practice both methods are usually carried out in a large number of infectious diseases. Thus in typhoid fever the system of notification, isolation, and disinfection aims at destroying the bacillus, and so preventing the spread of the disease; while antityphoid inoculation is designed to prevent exposed persons from being infected. Similarly with small-pox, in which the object is to render the whole community insusceptible; but in the event of a case occurring measures are taken for stamping out the freshly introduced germ. It is, perhaps, failure to distinguish between these two processes which has prevented victory in the various crusades against tuberculosis. What are called tuberculosis schemes are mainly concerned with an attempt to exterminate the tubercle bacillus. It is not far off half a century since Koch discovered the tubercle bacillus. With the recognition of the infectiousness of tuberculosis battalions of sanitary forces have been thrown into the attack. The main objective of all these forces has been to destroy the tubercle bacillus wherever found, or at least to confine its ravages to the infected. The ubiquity of the bacillus has stood in the way of the success of these offensive measures; and it is still possible to maintain that defensive measures of immunization are the true way to victory.

Modern procedure in dealing with tuberculosis consists in notification, sanatorium treatment, dispensary supervision, the establishment of colonies, disinfection, and the examination of contacts. Subsidiary measures are concerned with the milk and meat supply. The object of all these measures is to prevent the dissemination of the tubercle bacillus. They have had some success, but it is very far from being complete; so widespread is the disease that many doubt if it ever can be; and not a few experts in the disease hold that if the measures were successful the result would be a community intensely susceptible to chance introduction of infection. If they are correct it would follow that the only way to check the ravages of tuberculosis must be by some form of immunization, that the disease must be fought on lines similar to those which overcame small-pox, though the conditions in tuberculosis may not render necessary universal vaccination. But it seems evident that any scheme must have regard to the cure of persons already suffering from chronic tuberculosis, since they may disseminate the infection.

TUBERCULIN IN DIAGNOSIS AND TREATMENT.

When Koch first prepared his tuberculin it was with the idea of curing actual sufferers from tuberculosis. Later its use was extended to diagnosis, especially in cattle. The unfortunate results in early days in the human being prevented its adoption as a routine means of treatment. Nevertheless, tuberculin or methods based on the theory of its action have continued to find supporters, and the possibilities of some such method as a preventive procedure

should not be neglected. At present there are at least three methods of treatment in existence for definitely raising the resistance to tuberculosis: vaccination with the bacillus by the method devised by Calmette and Guérin, applicable only to the newly born; the Spahlinger method, which has attracted a great deal of public attention, but has not yet been thoroughly tested by competent and impartial observers; and the tuberculin treatment at dispensaries, advocated especially by Dr. Camac Wilkinson. There is, of course, a preventive side to tuberculosis schemes, and general public health administration, by raising the general health of the people, and presumably, therefore, their resistance to tuberculosis, by better housing, better food, and better hygiene, must have had a considerable effect. Moreover, it has within its range the examination of contacts, by which means it is hoped to detect early cases and prevent the development of the disease. But notwithstanding the undoubted value of these measures, the fact remains that in many instances, however early the disease is detected, and however thorough the hygienic measures adopted, the patient goes from bad to worse, and treatment is of no avail.

THE SCIENTIFIC ASPECT OF TUBERCULIN TREATMENT.

We propose to state the views of Dr. Camac Wilkinson, not because we have any conclusive evidence that his treatment is of any more value than other forms of treatment, but because they form a connected and ingenious theory of the disease which, if true, should be helpful in research. Moreover, although they do not necessarily involve preventive immunization of the whole community, they contain a suggestion that prevention may be aided by rendering sufferers from the disease less dangerous than ordinary hygienic measures can make them.

According to Dr. Camac Wilkinson, acute tuberculosis occurs mainly in two classes of people—in children under 2 years of age, and in adults who have never been infected at all. In both cases the disease is very severe and is nearly always fatal. Very many people, however, are affected mildly, possibly through milk, after 2 years of age, but they have been able to overcome the disease, and they have done so by encysting the tubercle bacilli in a fibrous capsule. The process renders such persons immune to mild doses of infection, so that the majority go through life without any further manifestation of the disease. Dr. Wilkinson, we gather, holds that without this encapsuled focus there would be no immunity for them; but if by chance they meet with some massive source of infection at a time when their resisting power is lowered, they are very liable to become infected. These are the persons who provide the vast bulk of the cases of chronic pulmonary tuberculosis. Having originally had an infected focus they are comparatively immune, and do not suffer from acute forms of the disease, but meeting a massive infection when their resistance is lowered they become chronic tuberculous cases.

Dr. Wilkinson's next proposition is that tuberculin enables a diagnosis to be made at a time when physical signs are practically absent, and also when it is still doubtful whether the case is one of acute or chronic tuberculosis. According to his view a positive reaction to tuberculin indicates the presence of living tubercle bacilli in the body. In a patient who has reacted positively, a lessened reaction on later inoculation shows that the tissues are winning; an increased reaction indicates that the bacilli are winning. No reaction to tuberculin indicates that no bacilli are present. Consequently tuberculin, he holds, not only shows whether tubercle bacilli are present or not; it also discriminates between cases that are progressing and cases that are retrogressing, and is the only means of distinguishing the early stages of acutely fatal forms from the early stages of chronic forms of the disease. He believes, however, that tubercle bacilli cannot survive long in fibrous tissue.

THE USE OF TUBERCULIN IN TUBERCULOSIS.

Dr. Wilkinson's next assertion is that tuberculin is the best treatment in forms of tuberculosis which are amenable to any treatment. The therapeutic effect of tuberculin, he