MEDICAL EDUCATION IN RUSSIA

I N D E X.

* Has its own table of contents.

Dr. R.A. Lambert's Report for 1932

INTRODUCTORY RESUME.-

As a condensed statement of the broader and more important considerations to be borne in mind in the study of Russian conditions I would like to present:

A) some general remarks upon Russia;
B) comments upon the limitations and validity of this report;
C) the principal circumstances and characteristics of medical education in Russia at present.

A. General Remarks on Russia.

1. Russia is a name - and like many names it covers more than it explains and implies a greater diversity than can be enumerated or described. On reflexion you cannot dismiss the importance of the size of Russia in land and population, on even superficial acquaintance you cannot forget the variety of peoples languages and customs within its boundaries. It cannot be described in terms of Western Europe or America just as its languages cannot be conveyed in our alphabet. One sixth of the earth is in Russia and more languages are spoken there than in all the rest of Europe. The effect of this immense variety is heightened by the great distances and the resulting costly communications (1). And yet it is an entity - controlled politically by fifteen or twenty men and treated by the rest of the world as a

(1).- The policy of the present government has been to tolerate the regional differences of language, culture, and local govern-

. . . . . .

political unity - as "Russia".

2. Yet, this huge agglomeration has a certain unity of another order than the political for it has had 'en bloc' a cultural history and perhaps even more important it has not experienced 'en bloc' certain historical changes common to Western Europe. Russia never passed through a Renaissance and never knew a Reformation. For centuries it was governed by a small clan representing the church and the nobility. The tradition was of a government passive of (or at least ineffective before) illiteracy, social oppression, and inequality of human rights. There were almost no great social reforms up to 1917. And so the traditions of the Russian are radically different from the West - so different that Russia and Western Europe have at bottom extremely little in common - I say at bottom for the veneer of Western ways was forced upon Russians by Peter the Great and his descendants and if the veneer has cracked now, that is after all only the nature of veneer. It is misleading to expect or attempt to comprehend Russia only in the terminology and thought of Western Europe. We must break little laws if we are to see the big laws in operation; we must cast aside small categories and terms if we are to encompass what is important in modern Russia. It is futile to expect to find the type of democracy, of justice, of efficiency, fair play, which are important to us. We must distinguish between the makers and figure heads of the Russian Revolution and the conditions which made a Revolution inevitable. It is in these conditions that Russia is peculiarly importantly and

..(from previous page) ment while keeping centralized control of the essential sources of power.

uniformly different from the rest of the world. If the terms and quality of the Russian's life are peculiar, the problems of contributing to his welfare must be considered in the light of these peculiarities.

3. A war, disastrously mismanaged, a revolution radical in its inspiration in the cities, and far reaching in its agrarian counterpart, and then a horrible period of chaos, foreign intervention in favor of counter-revolution, famine and epidemic disease - few European countries have known any of these afflictions and none has borne the staggering losses in wealth, men and social stability that have fallen upon Russia. This is the course that has been run. The after-effects are apparent everywhere, From many Russians one gets the impression that these after-effects are not considered merely as the fruit of Communism but as the result of conditions in which Communism was a part. In any case it could be maintained that such a sequence of war, revolution, famine and disease entail almost irreparable loss quite apart from the type of Government. Indeed the strength (and weakness) of the Communist Party lies now not only in their de facto control of government but in the belief of most Russians that no radically different form of government could be good enough to make up for the incalculable losses of another revolution. I do not think the Soviet Government is a success nor Communism workable, but the Soviet Government cannot be judged solely by the fruits immediately visible - they are the fruits of war intervention and famine as well.

The revolution began in the army and in the cities but it took a special form almost contemporaneously in the villages, where it was an instinctive and unreasoned revolt of the peasants against the landlords. It took the form of arson pillage and general destruction and stealing, but only gradually (and at the instigation of the Communists) were ideas of legalized redistribution of land believed and practised by the peasants. In October, changes had gone so far that the leaders of the industrial and urban proletariat of Moscow and Petrograd representing a small but hard nucleus of extremists who knew what they wanted and aided by previous ferment in army and navy, seized the essential machinery of government and obtained eventually complete control. But, more important, the October revolution was not merely an unreasoning aversion to the old, but a fanatic declaration of something new - Marxism and Communism.

4. The great struggle in Russia is between city and country, between proletarian and peasant, between property sharer and property owner. It can best be grasped when you remember that the peasants took and divided the landlords' domains but had no new ideas about property qua property, whereas the industrial workers in taking over the factories were aflame with a new and fanatical creed. Peasant and factory employee made common cause against owners, but every succeeding year since they have discovered how fundamentally different are their points of view, their experience, and their interpretation of the right government policy. The story of Russia for the next

twenty or thirty years will probably center around a struggle. The political theorist, or the Communist supported by the industrial employee, will struggle against the peasant - the mass and inertia and opposition of the millions of peasants.

In Moscow and Leningrad there is frequent reference to the "periphery". This means all Russia except Moscow and Leningrad - and especially the villages and distant gubernias or departments. There is a certain vagueness and vastness implied and the term seems really significant of an important relationship, namely - the city governs the country, and yet the country is too vast to know itself or to be known comprehensively. And furthermore, the city takes upon itself the guidance of the country, and this relation explains the great concentration of model institutes in Moscow and Leningrad. Possibly they were not built to show to foreigners (who sometimes flatter themselves by advancing this theory) but because the Soviet Government knows the periphery is too vast to be transformed in this generation by scattered institutes and yet that it looks to Moscow and Leningrad for guidance.

5. The most important and outstanding fact about the U.S.S.R. is that nowhere in the world will the next three decades witness so clearly the vivid effects upon national life of general education. The illiteracy of Russian soldiers was 74% in 1914. The Communists must have converts. Continuity of this form of government depends upon the education of the children. Communism is a fanatic creed -

a Faith which, as in our Reformation, takes Education as its bride not for companionship but to beget children. But the future generation, so ardently desired by the father, will be even more influenced by the mother. Is it possibly that education widespread in Russia for the first time will fail to change the political and social picture? I do not under-estimate the impermeability of the present ignorance, nor do I expect swift miracles, but a very great awakening is coming to a people of 140,000,000 when general education is encouraged in every possible way after hundreds of years of fostered ignorance.

6. Russia is changing no longer by revolutions but by processes analogous to cellular replacement. Experiments may be imposed by administrative authority but the verdict of experience in the long run is returned and one by one the theories which don't work can be discarded. The New Economic Policy, the recent limitation of the size of medical schools illustrate how theories that won't work have to be modified - or even reversed in response to imperative circumstances. The inner councils of the Government are small enough to produce and powerful enough to apply many more experiments in government radical and fantastic perhaps, but in case of failure more likely to be withdrawn than defeated by the outbreak of counter-revolution. Non-communists are too terrified and weary to be able to stage a counter-revolution, and the Communists are willing to make sacrifices to each other's views to keep power in their own hands.

I have attempted to call attention to the size and complexity of what is called Russia, and to its pecular national past which is so different from that of Western Europe. I have emphasized the effects of the recent past which would have exhausted any country regardless of its form of government. The contrast and indeed the conflict between city and country, worker and peasant, Communist and country 'bourgeois' has been noted as the struggle of the future in Russia. I have explained the extraordinary importance which education is likely to have in modifying the social and political picture in the U.S.S.R. and I have tried to indicate the way that future changes are likely to be effected. These factors stand out in my mind as the primary considerations in any attempt to translate into our own terms what is taking place in Russia.

B. Comments upon this Report.

The information upon Russia which is available before an actual visit to that country is as a general rule vitiated by the writer's fears and prejudices - racial, religious, economic and political.[x] Russia is too large and heterogeneous to be described by statements to which exception cannot be taken, and conditions are changing too rapidly for even the best imaginable description to be valid a year after it is written.

My visit was brief, and restricted to the two great cities. Of the "periphery" I could learn only indirectly. There was the serious barrier of not understanding Russian. No doubt much information was withheld through fear or caution, and it is probable that the best was eagerly displayed though I know of at least one institution which was "too good to be shown" - if I may believe the guide I chose. Never having visited Russia before I had no basis of comparison for what was to be seen. And it is quite certain that the occurrences of the past 12 years there, are both quantitatively and qualitatively beyond the imagination of those who have not passed through such experiences. Like most reporters of conditions in Russia, I can make small claim to accuracy and no claim whatever to thorough knowledge. And if it were possible really to know the conditions there it would be extraordinarily difficult to convey a correct impression.

The report is a record of some information which is undoubtedly correct, of initial impressions and of the general outlines of a rapidly changing situation in a country of considerable size and importance.

---

x. There have been fortunately some notable exceptions (e.g. reports of Philip Miller and W.H. Gantt).

C. Principal Circumstances and Characteristics of Medical Education in the U.S.S.R.

1. Medical education in Tsarist Russia was inadequate to the needs of the country, though there was produced an elite of practicioners, teachers and investigators of unquestionably high quality. The large number of almost overwhelmingly ignorant and superstitious peasants was the despair of the private practicioner and a goad to the conscience of any one interested in public health work or preventive medicine. But the spirit and organization of the government lent but little support to social medicine or hygiene. In research work the Russians of Tsarist times were not brilliantly supported by the government but were nevertheless well represented in the scientific world.

2. The war, revolution and emigration, famine and epidemics (especially typhus) have thinned the ranks of practicioners and teachers to an appalling extent. Add to that the effect of the destruction of the sources of wealth which contributed to create and maintain clinics and institutes and the obstacles now placed in the path of private practice and it is clear why isolation from the outside world of medical science is almost the "coup de grâce" for teacher or doctor in the U.S.S.R.

3. That is the background for the present situation in the medical schools. The size of Russia and the vastness of its medical problems would overwhelm a richer and more brilliant system of medical education. But in addition there is isolation especially from the outside world, and poverty in common with most of the government institutions, and the unrepaired depreciation of buildings during the last 14 years. The interruptions,

deaths, resignations, emigrations, and reorganizations have broken in many places the continuity of standards and traditions in medical education.

The control of the selection of students and election of professors has been more rabidly political than it is today. Red professors and red students was a formula which produced practicioners so palpably inferior that they were vomited back into the schools - the theory broke down and now the Commissariat of Education is restlessly groping for a means to produce capable teachers and village practicioners and coldly limiting the number of students in relation to the facilities for their instruction. But the choice remains favorable to teachers and students likely to be in sympathy with the Communist Party.

4. As salient characteristics of medical education in the U.S.S.R. the following deserve mention:

The Commissariat of Education exerts a strong and centralized control over all the schools. The curriculum is virtually uniform, the selection of professors determined by authorities in Moscow. Through model institutes in Leningrad and Moscow the periphery is supplied with standards and training centers.

The teaching of medicine is strongly permeated with the preventive rather than curative point of view, the care of the mass rather than of the individual. Indeed a considerable share of the teaching of medicine (e.g. post graduate schools) is in care of the Commissariat of Public Health.

The standards and quality of instruction given is maintained by men trained before the revolution and it is to their devotion to their work above any considerations of personal comfort or political sympathy that we must look for the continuance of standards of medical education in Russia. Whether in their isolation and poverty they will be able to transmit their tradition and their tempo of devoted work is still in doubt. There is the same contrast and conflict between professors and politicians as in other countries - indeed it is more bitter for being repressed on one side and suspicious on the other.

From the student body of Tsarist times that of today is quite different, for it is recruited in large part from a class that had no tradition, no background or no opportunities fifteen years ago. Even professors of reactionary sympathies comment on the amazing eagerness of these students to learn, but are equally emphatic as to their lack of general culture and information. It is impossible to suggest what effect upon the Russian medicine of to-morrow this change will have, but there is no doubt of the difference.

The schools of medicine in the U.S.S.R. are poorly maintained. Like nearly everything in Russia, better than the recent past would encourage one to expect, not infinitely worse than in Tsarist times, but in contrast to America unbearably sad, pathetically poor and in great need of outside contacts and encouragement.

MEDICAL EDUCATION.

MEDICAL SCHOOLS IN RUSSIA.

There are 24 Medical Faculties in the U.S.S.R. (1927) with a total student enrollment of 24,000. 15 of these are in the R.S.F.S.R. and are attended by 18,000 students. There were 20 medical faculties in the R.S.F.S.R. in 1922, but 5 have been discontinued.

Astrakan.

Gosudarstvennyj Medicinskij Institut imeni Lunatcharskogo. (State Lunacarskij Medical Institute) founded in 1918. 800 students in 1926.

Ekaterinoslav.

Ekaterinoslavskij Medicinskij Institut. (Ekaterinoslav Medical Institut). Founded in 1916 as higher medical school for women. In 1918 was re-organized as University with four faculties; in 1920 became again only Medical Institute. 1300 students, half women, in 1926.

Erivan.

Staats-Universität. (State University). Has faculties of medicine, agriculture, social sciences and technical faculty. 1150 students in 1926.

K a z a n.

Gosudarstvenny Kazanskij Universitet imeni V.I. Uljanova-Lenina. (Uljanov-Lenin State University). Founded in 1804. Has faculties of physical mathematics, medicine and work. 1928 students in 1926.

Kharkoff.

Medical Faculty title is: "Kharkowski Meditzinsky Institut".

K i e v .

Klinycnyj Institut. (Kiev Clinical Institute for higher medical education). Founded in 1918.

Kyivsky Bakteriologicnyj Institut. (Kiev Bacteriological Institute). Founded in 1896 and does work in medicine, vaccine, malaria and epidemiology.

Krasnodar.

Kubanskij Medicinskij Institut. (Kubaner Medical Institute.).

Leningrad.

Voenno-Medicinskaja Akademija. (Military Medical Academy). Founded in 1798. 1000 selected students in 1922. Not only for military but also for civil practicioners and teachers.

Leningradskij Medicinskij Institut. (Leningrad Medical Institute). Founded in 1897. 2170 in attendance at lectures (584 men, 1586 women) in 1926.

Gosudarstvennyj Institut deja usoversenstvovanija vracej. (State Institute for higher Medical Education). In connection with it is the Grandduchess Helene Pavlovna Free Clinical Institute. Founded in 1885. Particularly interested in practical medicine and sanitation. 501 in attendance at lectures in 1926.

Gosudarstvennyj Institut Medicinskich znanij. " GIMSA ". (State Medical Institute). Founded in 1908 as a psychoneurological institute. Each month holds a scientific meeting under the Chairmanship of the Rectors. Has connected with it the State Institute of Obstetrics and Gynecology. The Institute of Stomatology and the Leningrad Institute of Traumatology. 1845 students in 1926.

Leningrad (continued)

Leningradskij Gosudarstvennyj Universitet. (Leningrad State University). Founded in 1819. Has faculties of language and culture, social sciences, physical mathematics and geography. 4435 students in 1926. No medical faculty.

Gosudarstvennyj Institut experimentalnnoj Mediciny. (State Institute for Experimental Medicine). Founded in 1890. Supported by Narkomsdrav.

M i n s k.

Belorusskij Gosudarstvennyj Universitet. (White Russia State University). Founded in 1921. Has faculties of socialism, pedagogy and medicine. 2400 students in 1926.

Moscow.

Peruyj Moskovskij Gosudarstvennyj Universitet. (First Moscow State University). Founded in 1755. Has faculties of physical mathematics, ethnology, Sovietism, medicine. 9050 students (4456 men, 4594 women) in 1926.

Moskovskij II Gosudarstvennyj Universitet. (Second Moscow State University). Founded in 1926 as Moscow Higher Courses for Women. Has faculties of medicine, chemico-pharmacy and pedagogy. 5108 students (1907 men, 3201 women) in 1926.

"Giz" "Gosudarstvennyj Institut Zdrabovkhrunénia". "Institut okhrany maternistva i inladentchestra" (Institut de Protection de la Maternité et de l'Enfance). Institut Vénéorologique de l'Etat. Institut d'Etat de Physiothérapie.

Moscow has various medical institutes, including Institutes of Tropical medicine, of Sanitary Hygiene, Infectious Diseases, Tuberculosis, etc.

Niznij Novgorod.

Nizegorodskij Gos. Universitet. (Novgorod State University). Has faculties of mechanics and chemistry, but not of medicine. 1664 students (of which 463 are women) in 1926.

Odessa.

Odeskyj Derzavnyj Medycnyj Institut. (Odessa State Medical Institute). Founded in 1900.

Odesskij Gosudarstvennyj Dermato-Venerologciceskij Institut. (Odessa State Skin and Venereal Disease Institute). Founded in 1917.

There is also a Department of Medicine and Biology in the Naucno-issledovatel'skie Katedry v. Odesse. (Research Inst.).

P e r m .

Permskij Gosudarstvennyj Universitet. (Perm State University). Founded in 1916 as branch of the University of Petrograd. Has faculties of agriculture, medicine and pedagogy. 1966 students in 1926.

Rostov on Don.

Warsaw Medical Faculty transferred to Rostov.

Samara.

Samarskij Gosudarstv. Universitet. (Samara State University). Has faculty of pedagogy. 427 students (148 men, 279 women) in 1926. No medical faculty.

Saratov.

Gosudarstv. Saratovskij Universitet imeni N.G. Cernysevskogo. (N.G. Vernysevskogo State University). Has faculties of pedagogy and medicine. 1200 students in 1926 (of which 700 are women).

Saratov also has a District Institute of Microbiology and Epidemiology of Southeastern U.S.S.R.

Smolensk.

Smolenskij Gosudarstvennyj Universitet imeni Okdjabr'skoj revoljucii. (Smolensk State October Revolution University). Has faculties of medicine and pedagogy. 1925 students in 1926.

Tiflis.

Tiphlisis ssachelmtzipho Universitet. (State University of Tiflis). Founded in 1918. Has faculties of pedagogy, medicine, social economy, agriculture and polytechnics. Over 5000 students in 1926.

Voronez.

Voronezskij Gosudarstv. Universitet. (Voronez State University). Founded in 1802 as Dorpat University. Became Voronez University in 1918. Has faculties of pedagogy and medicine. 2155 students in 1926.

Tashkent.

Medical Faculty title not known.

B a k u.

Azerbeidjansily Josudarstvenny Universitet.

O m s k.

Omskij Medicinskij Institut. (Omsk Medical Institute). Founded in 1920.

T o m s k.

Tomskij Gosudarstv. Universitet. (Tomsk State University). Founded in 1880. Has faculties of medicine and physical mathematics. 1601 students - 901 women, 700 men.

Irkutsk.

Gosudarstv. Irkutskij Universitet. (Irkutsk State University). Founded in 1918. Has faculties of medicine, law and administration, pedagogy and work. 180 graduates in 1926.

Vladivostok.

Dal'ne Fostocnyj Gos. Universitet. (University of the Far-East). No Faculty of Medicine; possibly after two years. Has faculties of polytechnics, oriental languages and pedagogy.

2. HISTORY OF THE MEDICAL UNIVERSITIES.-

It is rather remarkable that the medical universities have continued to function as well as they have when we review the conditions. These have not been normal since 1914. At the beginning of the World War, the ten medical universities in Russia were well equipped and moderately well supported, although the number of students handled was not sufficient for Russia's needs. A few of the Institutes and hospitals were heavily endowed by private benefactors; for example, the Leningrad Obstetrical Hospital which was erected by the last czarina, at a cost of over a million pounds, and was one of the finest hospitals of its kind in the world.

From 1914 on the schools received progressively less in funds and materials, so that by 1917 they were getting about half of the pre-war funds and practically no medicaments or equipment except that little which was manufactured within Russia. The conditions of the hospitals and of the personnel was, however, not precarious; there was food, fuel and a surplus in some things. Then came the upheaval of two revolutions, followed by four years of widespread famine and decimating epidemics, during which time the theories of Communism were applied to the schools as well as to the individual. During these years there were almost no funds, materials or any kind of medical supplies; no repairs to the buildings, and only a pitiful amount of fuel or food, and earnings were made impossible because all

trading was abolished by law and punished by imprisonment. Practically all members of the personnel suffered. The bare question of existence from day to day due to general conditions of getting what was necessary to hold body and soul together, was the one thought uppermost in everyone's mind. Professors spent part of their time in squads shovelling snow, standing in line for their rations of black bread, potatoes and herring, and hurrying by foot from one post of duty to another, and in what time was left performing their special duties.

Instruction in Communism and some attempt at Soviet control has been introduced. During the period from 1918-1921, when a strict application of Communistic principles was applied to everything, the medical schools were also Sovietized. At present the residual changes are:

1) Large increase in the number of students.

2) Large increase in the percentage of women and of workmen and peasant students.

3) Large reduction of budget.

4) More highly centralized government control and emphasis on prevention and hygiene.

5) Although impaired facilities and equipment through exhaustion of finances with resulting lowering of efficiency of teaching in some branches, there has been some growth in other lines, particularly in public health instruction. The schools were nearly completely paralyzed from 1917 to 1920, but made a remarkable partial recovery during 1922 and 1923, and they are being gradually restored to their former condition.

"After the Revolution every effort was made to educate the proletariat, for whom higher education had been previously difficult to obtain. Students from the bourgeois class were discriminated against.

"It was quite natural, therefore, that great numbers of all ages flocked to the institutions of higher education. Although they were enthusiastic and eager to learn, they had no educational background; many of them had just learned to read and write. The universities were dreadfully overcrowded. Student committees were allowed to interfere with the curricula, and the professors were forced to make their instruction more and more elementary in order to be intelligible. Because of the pressure of the oncoming droves of students, each class was passed almost en masse, whether it had learned anything or not.

"Last year the first crop of medical graduates went out into practice and, interestingly enough, the residents of the distructs in which they began to work, themselves complained to the Government about the inadequate training of these new doctors. They are therefore being returned to medical schools for a supplementary course of two years. The new government, after the Revolution, refused to heed the advice of the medical faculties, and it has learned by the trial and error method that its theory of education was impracticable, or at least inapplicable to the medical profession.

"The most interesting conversation on the subject of medical education was with Professor Lang of the Leningrad Medical Institute. After the Revolution his school was forced to receive 600 students a year, but the number is now limited to 200. The students' interference with the curriculum has decreased to about 25% of what it was just after the Revolution; and he believes that it will decrease still more, for he said that it was apparent to everybody that the system then in operation failed entirely in its own purpose - to produce good practitioners". (Notes on my Visit to Soviet Russia, by Dr. C. Philip Miller, 1926).

In the past the contacts of Russian medical faculties were first with Germany and Austria, and second with France - third probably difficult to determine. It may be noted that before the war Switzerland had large numbers of Russian medical students. Now (1928) the number of contacts with Western Europe is almost negligible but the order of preference would probably be Germany, France, and America.

3.- ORGANIZATION OF THE MEDICAL FACULTY.

Medical education in the faculties of medicine is in the Commissariat of Education. The Commissary is M. Lunacharsky, but the special member or section chief for medical education is Professor W. Bronner, a neurologist with Parisian training, and a man of considerable ability. He has visited every faculty in Russia and is the best-informed individual regarding the status of medical education in the U.S.S.R.

There are numerous medical institutions, especially in the field of hygiene and post-graduate medical instruction which are not under the Commissariat of Education but under the Commissariat of Public Health (Narkomsdrav), whose Commissary is Semashko.

In both cases there is highly-centralized control of appointments of staff, expenses, and curriculum in the hands of the authorities in Moscow. Thus the control is in the hands of the Communist Party, and its influence is felt by the rank and file of rectors, deans and professors

whose interests are not political and whose sympathies are often covertly non-Communist. The chief professors have at times, but not frequently, been changed from the positions they held before the Revolution. This political control is probably not as harmful as it would be in other countries, and it has certain advantages. It tends to preserve order and prevent dissensions and anarchy, in a time when further squabbling would be suicidal, and strict discipline is necessary for rejuvenation. The schools may owe more than they have realized to this strict control.

The Rector of a University is appointed by the Government and the Rector in turn appoints his deans. Professors are chosen from a list presented by a special faculty commission of three (1) to the Section Chief (Bronner) of the Commissariat of Education. Bronner consults the State Scientific Council (30 members) and then chooses the professor from the list submitted. Bronner could impose a professor if he wished, but in practice he has not done so, he said. In 1926 Gantt noted:

"Although most strictly administrative positions are assigned to Communists, the scientists themselves are left entirely to work out their scientific problems as they desire,

(1) one political, one representing the Narkomsdrav, and one the students.

as they did formerly. As far as I have been able to ascertain from two year's work in Soviet Russia, distribution of Soviet funds to laboratories and appointment to scientific positions is made according to merit rather than to politics. I have seen during the past year that some of the scientific laboratories whose heads are directly opposed to Soviet politics have received the greatest amount of money and equipment.

Politics does not often interfere with a doctor's having the position to which his ability entitles him, except for administrative places which are usually given to party members. The heads of public health departments are Communists, and generally, judging from my experience, efficient organizers, and in most of the scientific institutes there is a political commissary with certain administrative powers."

The arrangement of the curriculum (q.v.) is in the hands of the central authority (Bronner) and is uniform for all the R.S.F.S.R. The allotment of the budget is determined similarly but with some local modifications in distribution. Through surveillance the quality of work and the validity of the University degree is standardized by the Narkompros..

For its internal management, each medical faculty is administered by the dean and the Faculty council, together

with special committees for each discipline. The Faculty council of the Medical Faculty of the First University in Moscow, for example, meets ten to fifteen times a year, discussing teaching problems of faculty as a whole, possible candidates for vacant chairs, and the promotion of teachers, assistants, etc. The special committees for each discipline meet from two to twenty-five times a year as circumstances require, and for the following purposes: attempts to improve teaching facilities of a given department, determination of programmes of work, discussions of teaching methods, discussions of candidates for vacant professorships, reports on the work of various institutes, accounts of activities of the teaching staff, lectures of candidates for docentships.

4.- UNIVERSITY FINANCE.-

No information was available, except that published in the announcement of the First Moscow University which follows:

The financial conditions during the period that followed the Civil War were most depressing. It is only in 1924 that a gradual improvement began to take place.

The budget of the I Moscow University for 1913 amounted to 2,638,911 Roubles. It went down as far as 2,087,440 Roubles in 1923-1924.

1924-1925	-	2,963,339 Roubles.
1925-1926	-	4,894,116 "

It may consequently be observed that the 1925-26 budget is 65% higher than that of 1924-25 and is equal to the 1913 budget (considering the rate of exchange). It may be added that, in 1913, there was a regular income of 300,000 from the capital of various philanthropic foundations.

The school year of 1925-26 brought about a radical change in the financial situation. The Soviet of Moscow and

the State Bank joined their efforts and managed to cover most of the University debts. The allotment of the State was also considerably increased at that time. The slogan was: the best thing is not to reduce expenditures, but on the contrary, to increase the expenditures and consequently the assets as well.

5.- MEDICAL SCHOOL FINANCE.

Very scant information is available to give the picture of medical school finance at the present time, and if plenty of figures were available, many pitfalls would still lie in their correct interpretation. The gold value of the rouble is particularly important for foreign purchases but, within Russia now of no importance for rent, and very little for food. Depreciation of buildings apparently would not appear in budget estimates since the buildings I saw had not had any repairs for ten years and more. It will however be a very heavy item in the next ten years. There is no base line for comparison of the available figures since the significance of the money itself has changed.

As a matter of record the following budgets in gold roubles may be noted:

	1913	1914	1915	1916	1922	1923
Leningrad Med. Institute	400,257	377,599	33,484			33,484
Leningrad Military Academy				875,000		288,000
Leningrad State Med. Institute	276,395	222,444			33,592	

In 1927-28 salaries of professors.

The Military Academy in Leningrad has (1927-1928) 5000 roubles for purchase of apparatus abroad and 1200 roubles for books and periodicals. The rouble was 2.50 to the dollar

1928.
in December 1927 and 3.00 in February. For students' fees, etc. see under this heading - this source of income is negligible, as is that of gifts and incomes from private sources. No figures were given me of actual medical school budgets but the departmental budgets vary from 100 to 250 roubles a month ($350 to $1000 a year) (See under Laboratories and Clinical Facilities).

Full-time professors receive 250 roubles a month, men in practice 180. Assistants 95 and "aspirants" 80 roubles a month. Living quarters (2 rooms) for a professor cost 5 - 10 roubles a month, an item that shows how illusory is the superficial comparison of budgets and figures of faculty expenses in the R.S.F.S.R. at present.

The First University at Moscow runs its own clinics and indeed charges special rates for patients and supports some of the laboratories from the surplus. The other schools visited either use municipal hospitals or hospitals supported partly by Narkomsdrav and partly by Narkompros .

6.- LABORATORY FACILITIES.

In general from the schools visited the impression received is that the laboratories are fairly well housed, rather uniform in equipment and housing, in a bad state of repair, but even so, used more effectively for the average student than is the rule in Western Europe. The floor space is usually considerable and the schools limit the number of students to their laboratory facilities. Apparatus and reagents are almost uniformly inadequate and there is much difficulty in getting apparatus from abroad on account of the restriction placed upon amounts for foreign purchases. The teaching seen was impressive on account of the intense seriousness of the students, but I gathered that their intellectual baggage was scant, their poverty a great handicap and the large proportion of girls may not be able to accept the extraordinarily heavy work demanded by the conditions of country practice.

Any sums spent for apparatus would be used twice to ten times as much as in most European countries - in this point Russian medicine closely resembles the American practice.

The Government has at first concentrated support more in the independent institutes allied to medicine, but is now

turning to the faculties and beginning to help them relatively more liberally.

The following random notes on some of the laboratories visited in December 1927 may indicate what were the general conditions of the best faculties in Russia as regards laboratory equipment.

It should first be noted that practical work was honestly emphasized everywhere and that the numbers of students are adjusted to the laboratory facilities and if necessary strictly limited. There is a dearth of apparatus and supplies that is in evidence everywhere. The assistants divide their time and energies between two or more places. But in some ways these defects are made up by the earnestness of the students and the fact that hard intellectual work is an actual solace for an otherwise unbearable existence.

FIRST UNIVERSITY - MOSCOW.

Anatomy.- Professor Piotr Karusin - old man, strict teacher. Finishes current year in old building. New building 2/3 done. 62 rooms costing one xx xxx million roubles, begun in 1926. At present Karusin has 600 students. 100 bodies for them. Other laboratory expenses well taken care of. Good museum. Not much investigation going on. Histology, Embryology and Topographical

Anatomy all separated from Anatomy.

Pathological Anatomy.- Professor Abrikosov (away), Prosector Davidovski. Three courses, total 1000 students. 300 autopsies a year. Staff: Professor, 1 prosector, 1 Assistant prosector, 5 paid assistants, 15 aspirants (young assistants trying out for academic posts). Budget 250 roubles a month, but can only spend 10 r. a month outside Russia. Does all autopsies for the clinics. Excellent lab. 100 microscopes - one for each student in a section. Can't buy the journals they need.

Pharmacology.- Prof. Vasily Nicolaieff. Came from Kazan. Was pupil of Schmiedeberg. Fair laboratory. 15 rooms. Student gets lectures, demonstrations, and about 40 hours of laboratory work. Also considerable practice in pharmacies of Moscow in prescription making. N's salary 250 roubles. Laboratory budget 130 roubles a month. Great improvement over conditions 3 years ago. N. has 3 assistants and 3 aspirants. Apparatus expensive, journals few, chemicals not always good.

Hygiene.- There are four chairs of Hygiene:

1. General Hygiene. Professor Syssin, 4 Assistants, 3 aspirants. Given in third year 252 hours in all. Laboratories large, well-lighted, well-equipped.

2. Occupational Hygiene, Professor Kaplun, 144 hours in 4th year. Only 2 small rooms, mostly museum.

3. School Hygiene. Professor Molkov. 144 hours in 4th year. Largely lectures. No rooms.

4. Social Hygiene. Professor Semashko. One room filled with charts.

The laboratory buildings of the First University were built about 1890-1895 and are comparable to others elsewhere of that era, except that considerable repairs should be made in the near future.

SECOND UNIVERSITY.-

Experimental Biology.- Professor M. Zawadowsky (absent). Assistant Blacker. Excellent little laboratory. Fine spirit. Good work on genetics in fishes and axolotl. 25 roubles a month is the laboratory budget. In existence only three years. Students during their first year and a half - 10 sections a week for 2 hours.

Physiology.- Professor Lina Stern, formerly in Geneva. Speaks Russian, Italian, French, German and English. Well-equipped, small laboratory, giving good impression. She complained of division of assistants' time and of the poverty of her students. Was given 10,000 roubles to equip her laboratory two years ago, now has budget of 40 roubles a month. Has students 2 semesters - they get 2 hours a week of lectures, 2 hours of seminar, a week, and 36 hours a semester of laboratory work.

Topographical Anatomy.- Professor K.D. Esipov. Talented draughtsman, most brilliant teaching collection of charts and drawings

I have seen in Europe. Good operating room for animal surgery.

Microbiology.- Professors Kritschevsky and Ismailsky. A large, rather well-equipped, but inappropriately-housed Institute which does immunity serology, chemotherapy and bacteriology as an independent institute, and also does teaching for the II University. Under Commissariat for Education. Both professors and personnel look like good men. An important center. 40 on the staff, 15 aspirants, 15 publications in 1922-1923, 61 in 1926-1927. Total budget for 1926-1927 was 27,000 roubles.

MILITARY MEDICAL ACADEMY.-

Pharmacology.- Professor S.W. Anitschkoff. Young and active. Laboratory small, not well-equipped, but very active. Two good assistants. 200 in class.

Pathological Anatomy.- Professor N.N. Anitschkoff. Careful worker. Good equipment, good work going on. Relatively young man.

Physiology.- Professor L. Orbielli.- Good laboratory. Excellent laboratory work by students, who seemed better type than elsewhere. No girls. Soldiers and officers have preference at the Academy. Military students get unfform and 60 roubles a month and must serve two years in army for every year in school paid for by State. Pavlov held this chair but resigned as protest against expulsion of children of clergy from Universities.

Hygiene.- Professor G. Chlopin. Only hygiene of environment. Large museum and empty laboratories. No relation with practical work. Good quarters inadequately used.

Epidemiology and Bacteriology.- Professor Zabalotny. No demonstration area. Laboratories well-equipped and in fair use. Met him when he was in the midst of conferences with students on program for next year. Non-European touch!

MEDICAL INSTITUTE.-

Anatomy.- Professor absent. One of the best teaching museums I have ever seen, work of former professor Weinberg. Large and well-equipped institute.

Pharmacology.- Professor Lichatcheff. Small laboratories but crowded and well-equipped. 3 assistants but half of the work is done by voluntary assistants, whose clinical academic careers are strengthened by a year or so in "theoretical" branches. Laboratory got 100 roubles a month before the war, now 70 but this 70 has the value of 20 or 25 roubles before the war.

Preparation of students before they take pharmacology is one semester of inorganic chemistry, two semesters of organic chemistry, one semester of colloidal chemistry, and two semesters of biological chemistry. In pharmacology each student gets 3 hours of lectures a week and 6 to 8 practical exercises of 3 hours during

the course, and a small amount of seminar work.

For information regarding recent changes in teaching methods, facilities, etc. in the First University of Moscow, see Appendix I. This information is translated from the official publication of the University.

7.-CLINICAL FACILITIES.-

In general the teaching clinics of the Faculties visited in December 1927 were well-staffed and directed by able and well-informed men, who evidenced in most cases no political interest or influence. The nursing was poor and the housekeeping worse. The buildings need a great deal of repairing. Equipment seemed antiquated and worn at times, but there is a good deal of renewal, and the level is better than might be expected.

The First University in Moscow possesses its own clinics and must maintain them by fees from patients. The Second Moscow University and the schools in Leningrad use city or government hospitals, bearing only the teaching charges.

I was impressed by the desire of the clinical teachers to see that the average student shall get a good training - rather a contrast to the attitude in Italy, Austria or France. The emphasis is upon practical familiarity by each student with the cases assigned to him, and the attitude of the teachers, was kindly serious and unaffected. There are many parallels between American and Russian points of view, but the dread of country practice keeps a larger number of interns and voluntary assistants at work in the faculties in Russia than with us.

As in the laboratory branches one gets the impression that the pre-war generation is the sheet anchor of Russian medicine, even in the case of the younger men. Their orientation is much broader and their standards more comparable to those in Western Europe.

Most of the clinical chiefs have some private practice, heavily taxed, but none the less relatively lucrative. The demands from this quarter and the crowded wards of their service have largely put an end to much of the interesting clinical investigations that would otherwise be possible.

The ordinator is the equivalent of our intern, but he sleeps outside the hospital and stays from two to three years. He is a helper for the assistants, and hopes to be chosen as an assistant. The assistants do a small amount of private practice and may remain not longer than 10 years as assistants. The aspirants (1) are young men desirous of an academic career, selected by the Ministry of Education, and detailed for a period of about 3 years for special training in laboratories and clinics.

In Appendix 3 is given in detail accounts of teaching and other activities of the clinics of the First University

(1) See page 91.

in Moscow including Social Hygiene in the form of a translation from the official announcement of the Faculty.

A few notes of clinics visited may be of some interest.

I. UNIVERSITY MOSCOW.

Second Surgical Clinic, Professor Martinov, Building belongs to University, about 30 years old, wards fairly clean, patients look rested. 80 beds on this service, of which 24 can be taken for free cases for teaching purposes. Others all pay - on open ward 40 roubles a month, private rooms 300 roubles a month. Thus the clinic earns 2500 to 3000 roubles a month, one-third of which it can keep for its own expenses, the rest is turned over to the faculty for the support of the institutes.

In second semester of last year the students get one month of clinical clerk's work. Teaching much as in America. The equivalent of our interns are called ordinators; they do not live in the hospital but stay for two to three years in hopes of getting assistantships. Assistants cannot stay more than ten years. Students' midday meal 10 kopeks (5 ¢) for bread, 3 kopeks (1/2 ¢) for "tea".

Good selection of cases on the ward. An O.P.D. service of 40 cases a day. Martinov an able operator, assistant

Blumenthal.

First Surgical Clinic.- Professor N.N. Burdenko. Much like the Second Clinic, but cleaner and apparently more favored with apparatus and material. No organized course for nurses now. They used to have 3 1/2 years of training after coming up from gymnasia. Now less preparatory training, but still look the superior of most nurses in for example, France or Belgium.

Medical Clinic.- Professor Pletniov, who has high reputation in Moscow. 80 beds. Extensive laboratories with good equipment and in use. Electro-cardiagraph and Haldane apparatus just arrived. Special room for blood chemistry only. Good general impression.

Medical Clinic of II University.-

In City Hospital, 68 beds. Fair X-Ray equipment. Wards not clean, but patients look comfortable. The histories were the best I have seen in Europe. Three courses given third, fourth and sixth year. About four cases for each student but carefully worked up. Cases stay an average of one month in hospital but a good selection is claimed. Expenses of hospital paid by City, University paying for teaching expenses only.

10 ordinators. 4 Aspirants. Ordinators are chosen by a committee, one-third of which are students. Spend two to three years as interns but with no division of labor as is found in U.S.

Surgical Clinic of II University.- Professor W.S. Lewit, capable younger man called here from Irkutsk, 8000 kilometers distant. About 80 beds. No subdivision into specialties. Good appearance of wards, plenty of space, equipment good, repairs of building in progress, which show good knowledge of what is needed.

LENINGRAD MILITARY ACADEMY.-

Has a complete general hospital, including wards for gynecology and obstetrics. About half of the patients in the hospital are soldiers. There is some selection of cases for teaching purposes. Most of the buildings are old and were badly out of repair in 1926 when 200,000 roubles was spent on painting, plumbing, etc. I did not visit any of the wards except the Eye-ear, nose and throat. Professor Voyatschek (Director of the School). This was clean, modest and effectively managed. Ample assistance, practical equipment, building needing repair.

The Peter Paul Hospital of the Leningrad Medical Institute.

> (Quoted from Dr. C. Philip Miller's notes). "The hospital is old, the oldest building dating from 1835; was formerly a city institution, but later became a teaching hospital for the Women's Medical School. This institution was formerly exclusively for women, as the other medical school in Leningrad, the Military Academy,

was closed to them. Since the revolution, it has become co-educational.

"Professor Lang, the Director, is considered to be the best clinician in Leningrad and one of the best in Russia. He is well read and up to date. His research work has consisted either of repetitions of other work, or of small Arbeits. He is not liked by the students because he is too "Scientific" for them, i.e. presents a subject by giving all the theories and evidence pro and contra.

"When Lang became Director of the Hospital in 1924, it was in a deplorable state as to cleanliness, orderliness and discipline, and also as to the instruction offered. He considers that in these two years it has improved to about 50 per cent of what it should be. In some respects it is now better than before the war, when it was scandalously overcrowded, e.g. in winter all the corridors were full of beds. It had always been neglected because it was a city hospital. Next year the hospital will be entirely renovated. During the past two years the Oboukov hospital which had been the worst in Leningrad, has been modernized at the cost of one million roubles and now the Peter Paul Hospital will have its turn.

"The Hospital has a total of 1040 beds. The oldest building (91 years old) is gloomy, dark and badly ventilated. The newest is fairly good. The laboratories are very inadequate, both as to size and equipment; e.g., two small rooms serving one hundred students for all clinical laboratory examinations. Lang is ashamed to show the laboratories which are supposed to be for research. The wards look about like those in the poorest German clinics.

"Staff: There are three medical clinics, one each for the third, fourth and fifth year students. At present one of the chairs is vacant. There are eight paid assistants, with salaires ranging from 40 to 80 roubles a month. About 45 volunteers serving from one-fourth to one-half time. Money for investigations is very scarce. It is difficult to get money for preclinical teaching. The clinical is better off, because the small grants from the central government are augmented by funds from the city for care of patients; e.g. Lang was able to buy an electro-cardiograph outfit for

Roubles 8,000 by getting 2,000 from the State and 6,000 from the City. In the same way he has managed, in the past two years to buy X-Ray and light therapy apparatus".

MEDICAL INSTITUTE.

Dermatology and Syphilis.- Dr. Sachnovskaia. 100 beds and 200 patients a day in the O.P.D. which is open from 10 a.m. to 7 p.m. with three assistants on duty for 3 hour service. 62 roubles a month for maintainance. Students in fourth and fifth years make ward visits in groups of ten, daily for a month. Building not repaired for the last 13 years and looks it. Large numbers of lupus cases. 350,000 in R.S.F.S.R. Also much fungus disease.- 500 cases in two years.

Surgical Clinic.- Professor W. Schaach. (Pupil of Lexer and Bier). 75 beds supported by city, 1200 patients a year. 50 roubles a month from faculty for teaching service. Two days a week this service takes in all surgical entries, the rest of the week they make selection of cases from the O.P.D. they maintain. No paying patients. Building was excellent, now badly worn and dirty. Nursing poor. 15 nurses for 75 beds, only 3 sleep in hospital. Schaack says there are nursing schools but they are not connected with teaching hospital. Staff for Professor S. is 5 paid assistants and 25

voluntary. They keep record of clean cases which go septic (30% in 1923 and 16% in 1927), and the death-rate in the clinic 4% now.

Gynecology and Obstetrics Clinic.- Professor Skrobansky. 240 beds, 100 of which are for obstetrics. About 10 deliveries a day in the hospital. Students get 8 days of 24 hours duty in hospital. They deliver only two cases by themselves. No district work. Skrobansky has a first and two second assistants from the Faculty and three from the hospital. In all 40 on staff.

8.- LIBRARY FACILITIES.

The past eight years have seen a series of changes in the library facilities of the medical faculties of Moscow and Leningrad. There have been numerous coalescences and a few new collections begun. In the institutes and clinics of the medical faculties, there is an almost uniform poverty of books and journals since 1914 or 1917, though a few are surprisingly well-equipped since 1925. For example, in the library of the second Surgical Clinic of the I University at Moscow there were 21 journals, 12 of which were foreign, in 1927. Probably in the provinces the poverty is the rule, with the gifts of the R.F. as the only exception.

The main obstacle in adequately furnishing the libraries is the restriction on all kinds of purchases abroad, which is enforced by the Government as a means of preserving the value of the rouble in foreign exchange. The only organization with special privileges in this matter is the Tzekubu which is a central organization or Union of Scientific workers, but its library is available only to men in Moscow and even so is not very near the Medical School workers.

As a rule, centralization of library resources is frequent, funds available are small, and library service not very well developed, except for the long hours during which the libraries are open. The poverty of the students makes the problem of text-books particularly troublesome and urgent. The impression received is that no single material aid from outside Russia would be more appreciated and more generally used than books and journals. The following translation from the publication of the First University of Moscow for 1926-1927 is of interest.

UNIVERSITY LIBRARY.-

There were 483,170 volumes in the University Library by January 1st, 1925. The year 1926 resulted in an increase of this library by 13,373 volumes, 17 manuscripts and 24 maps.

The library used to receive 546 subscriptions to scientific journals during 1925, which number was raised to 564 in 1926 (compared with 402 during 1924). This number can be divided as follows:

Natural sciences and mathematics	244
Medicine	151
Social sciences	114
History, philology, literature and bibliography	53

The largest number of scientific periodicals consequently falls on natural sciences and medicine. The number of periodicals in social sciences has been increased 100% during 1926 (114 instead of 54), and this is likely to continue. Considering that a

number of outstanding libraries in Moscow (such as the Public Library under the name of Lenine, the Library of the Communist Academy, Karl Marx's and F. Engels' Institute Library, etc. have subscribed to a number of foreign periodicals, the University Library has decided to reduce their number of subscriptions and to subscribe to merely the most outstanding reviews.

The State allotment to the University Library is only 60% of the pre-war figure. One of the greatest problems of the Library is the question of back files in which there is a considerable gap to be filled.

In 1926, 137 institutions of various countries were in permanent contact with the Library of the I University of Moscow in supplying literature. Among those were: 10 Academies, 84 Universities, 1 Ministry, 12 State libraries, 12 scientific institutes, 8 "learned societies", and 10 various organizations:

Germany. 1. Deutsche Akademie der Wissenschaften, Berlin.
2. Bayerische Akademie der Wissenschaften, München.
3. Staatsbibliothek, Berlin.

Austria. 1. Akademie der Wissenschaften, Wien.
2. Nationalbibliothek, Wien.

Norway. Académie des Sciences et des Lettres, Oslo.

Japan. Imperial Academy, Tokio.

Jugoslavia.- Académie des Sciences, Belgrade.

Bulgaria. Académie des Sciences, Sofia.

England. British Museum.

France. 1. Ministère de l'Instruction Publique
2. Bibliothèque Nationale.

U.S.A. 1. Public Library of New York
2. Montefiore Hospital of New York
The Rockefeller Foundation of New York
Smithson Institute of Washington
Carnegie Institution of Washington.

Exchange of literature with foreign countries.

	1924	1925	1st Sem. 1926
Received	541 volumes	1335	853
Sent	137	218	131

The library is open every day from 10 a.m. to 11 p.m. for the use of both the teaching staff and the students.

Administration (1926)

Director: Prof. A.N. Nersessoff,
Assistant Director: N.V. Skorodoumoff.

Seminary Library of the Medical Faculty.

The seminary library has been able to considerably increase its number of volumes and periodicals although they are still frequently unable to fill in the requirements of all the students. On the other hand, these requirements are constantly liable to increase and may be explained first of all by the growing number of scientific publications and partly by the poverty of students who in many cases are unable to acquire expensive books.

Attendance:

6361 during 1925 - 4826 during the first half of 1926.

Most of these fall on the 3rd and 4th year.

The lecture room is open every day from 3 to 10 p.m. Most of the books consulted are in Bacteriology and Pathological Anatomy; then come Internal medicine, Social medicine, Hygiene.

The average attendance is 52 students per day with 63 books.

9.- PROFESSORIATE.

The professors are chosen as noted in section 3 by the central authorities of the Commissariat of Education in consultation with the State Scientific Council in Moscow, from lists submitted by the University collegium. The present situation seems to be that the provincial universities have had a much larger number of changes in personnel than is the rule in Moscow and Leningrad. Emigration, sickness or death, and retirement, expulsion and resignation (1) have accounted for many changes and in approximately the given order of importance. The professors who keep their political views to themselves and devote themselves to their work are neither molested or discriminated against but those teachers who are openly in favor of Communism are likely to receive more favorable treatment. There is a serious dearth of properly trained men and the provision of adequately prepared teachers is one of the principal concerns of the Central Authorities.

Any discussion of salaries is apt to be misleading if comparisons are made with other countries, since in Russia food and lodging are cheap - all else extremely expensive. A professor is entitled to 8 square meters of room for each member of his family, plus a room for his work. The item of rent comes to 5-10 roubles a month out of his salary of 150-250 roubles .

(1) Resignation often due to refusal to learn a local dialect which has become the official language of the region.

"(Cf. Dr. C. Philip Miller's Notes) .....
Salaries.- The head of a department in a scientific institute receives about Rs. 200 to 250 a month. Three men told me that their salaries were 190, 200 and 230 roubles, respectively. These men were working on full-time and had no other sources of income. Belonowski receives Rs. 150 as professor in the Institute for Post-Graduate Instruction, but also holds another position. His first assistant gets Rs. 100 a month. Lang's (Leningrad) assistants receive Rs. 40 to 80 a month.

"A good many posts pay Rs. 100 or less, but allow the occupant to hold two or three positions. This seemed to be rather the rule than the exception. It seemed to me rather a pity that some men whom I met were forced to divide their time between two or three laboratories in different parts of the city in order to make a living wage.

Cost of Living.- The man receiving Rs. 190 a month (unmarried) told me that he paid Rs. 1,50 a month in taxes and an average of Rs. 20 for rent, heat and light. Rent and service are very cheap according to American standards, and butter, eggs and coarse linen cloth are cheaper than in American cities; but practically everything else is twice as expensive, and a good many things are three times as expensive as in America. All the Americans I spoke with, in Russia, on this subject said that they were quite unable to understand how the Russians manages to live. A great many things which we consider necessities of life are luxuries too expensive for the majority of Russian scientists, or one might say, for all Russians. A few prominent clinicians have very comfortable incomes from their practices, but they are really rare exceptions".

The past has been unbelievably difficult and precarious, so that a dreary present seems good by comparison. It is a great trial that it is so difficult to get permission to leave Russia - to say nothing of the great expense of travel. On the other hand, great ability is relatively better rewarded now than under the government of the Tzar, if we may believe members of the laboratory branches. Surgeons and physicians of note receive less than in pre-revolutionary days.

In general these are the circumstances - the lot of teachers is very hard, but the professors in comparison with other occupations are well paid and their positions sought after. They have lived through times that make 1927 seem good - and their work is a spiritual solace for which they do not pity themselves.

A brief review of the past indicates only some of the difficulties.

The maximum salaries of professors in the medical schools before 1914 was about $300 a month, and living in Russia was cheaper than in most other countries of Europe. Then salaries dropped rapidly in 1915 and 1916, so that by 1917 they were barely equal to living expenses. From 1917 to 1921 there were no salaries paid in Russia, and everyone who performed some "useful production work" was issued a ration. During these years teachers therefore received rations depending on the number of positions they held. A man who was able to hold a position in two institutions received two rations. Rations were issued according to grades, such as manual workers, Communists, scientific workers, etc. During the worst time, in 1919 and 1920, the resources of Russia . . . . . .

made possible less than a pound of black bread, and about a half-pound of potatoes daily for the scientists, and occasionally cigarettes were issued instead of bread. With the initiation of the New Economic Policy in 1921 salaries were again paid. These started at about $5.00 (maximum) monthly, and gradually rose in 1924 to about $ 17.00 as a maximum, supplemented by a ration of flour, herring and potatoes of about 1,500 calories daily, and free apartments. Dr. Pavlov, for example, whose special worth has been recognized by the Soviets, received this amount. The amount received is sufficient to support the recipient, but with no surplus for any books, comforts or luxuries, and if there is a family the others must obtain some form of employment which will provide them also with the means to live. The greatly reduced standard of living in Russia, the absence of all luxuries, and the cheapness of plain food make it even possible for two or three to live on a very small salary. Altho bare living is cheap, all luxuries and most comforts are much more expensive than in England or America. Unfortunate was the man who had not many valuables to sell to tide him over these years.

The following list of professors was given me by Professor Bronner:

LIST OF PROFESSORS OF THE MEDICAL SCHOOLS OF MOSCOW AND LENINGRAD.

(Administered by the Narkompros (People's Commissariat of Public Instruction) of the R.S.F.S.R. (Russian Socialist Federative Soviet Republic).

I
M O S C O W.

No.	Chair	Med. Faculty of the I Moscow Univer. (Name of Professor)	Born	Med. Faculty of the II Moscow Univ. (Name of Professor)	Born
1.	Physics	Mlodzievsky	1883	Mlodzievsky	1883
2.	Gen. Chemistry	Prjeborovsky	1883	Reformatsky	1865
		Stepanoff	1872	Mikhailenko	1864
3.	Gen. Biology	Kursanoff	1877	Zavadovsky	1897
		Bogoiavlensky	1870		
4.	Normal Anatomy	Karuzin	1864	Dioshin	1864
5.	Histology	Gurvich	1874	Karpoff	1870
6.	Physiology	Shaternikoff	1870	Mrs. Stern	1879
7.	Biolog. Chemistry	Gulevich	1867	Smorodinzeff	1881
8.	Pharmacology	Nikolaeff	1871	Skvorzoff	1879
9.	Patholog. Anatomy	Abrikosoff	1875	Kedrovsky	1865
10.	Patholog. Physiology	Sakharoff	1873	Bogomoletz	1881
11.	Operative Surgery	Obrosoff	1880	Esipoff	1874
12.	Microbiology	Barykin	1874	Kritchevsky	1885
13.	Experim. Hygiene	Syssin	1874	Ignatoff	1879
14.	Social Hygiene	Semashko	1874	Solovieff	1877
15.	Labour Hygiene	Kaplun	1897	Kaplun	1897
16.	Educational Hygiene	Molkoff	1870	Molkoff	1870
17.	Legal Medicine	Minakoff	1865	Minakoff	1865
18.	Surg.Proped.Clinic	Gerzen	1871	Weissbrot	1874
19.	Therap. Prop. Clinic	Fromgold	1881	Nieviadomsky	1883
20.	Therap. Clinic (4th year)	Vikhert	1884	Kabanoff	1864
21.	Surgical Clinic (4th year)	Bourdenko	1878	Spasokukotzky	1870
22.	Gynecology and Obst. (Clinic)	Malinovsky	1880	Kurdinovsky (Braude)	1874
23.	Ophthalmology Clinic.	Odintzoff	1876	Averbakh	1872
24.	Dermatology & V.D.	Mestchersky	1874	Yordan	1866
25.	Pediatrics (Cl.)	Melchanoff	1868	Kissel	1854
26.	Neurology (Cl.)	Rossolimo	1860	Mynor	1855
				Sepp	1878

No.	Chair	Med. Faculty of the I Moscow University (Name of Professor)	Born	Med. Faculty of the II Moscow Un. (Name of Professor)	Born
27.	Psychiatry (Cl.)	Ganushkin	1875	Gilarovsky	1875
28.	Hospital Therapy (Clinic) (5th year)	Pletneff	1871	Konchalovsky	1875
29.	Hospital Surgery (Clinic, 5th year)	Martynoff	1868	Levit	1883
30.	Oto-Rhino-Laryngology (Clinic)	Ivanoff	1867	Sverjevsky	1867
31.	Infectious diseases (Clinic)	Kireeff	1873	Marzinovsky	1874
32.	Urology	Fronstein	1882	Lejneff	1873
33.	Phys. Therapy	Mezernitzky	1878	Bogasheff	1878
34.	Odontology (Cl.)	Lukomsky	1893	Kogan	1880
35.	Tuberculosis (docentship)			Einiss	1890
36.	Reflexology	-		-	

L E N I N G R A D

		Med. Institute of Leningrad.		State Institute of Medical Sciences.	
1.	Physics	Lebedinsky	1868	Orloff	1874
2.	General Chemistry	Zalkind	1876	Jukoff	1861
		Ginsberg	1870	Spassky	1868
3.	General Biology	Nadson	1867	Ivanoff	1878
		Knipovich	1862		
4.	Normal Anatomy	Kornilovich	1867	Zeldovich	1869
5.	Histology	Martynoff	1872	Deineka	1876
6.	Physiology	Orbeli	1882	Tuhr	1866
7.	Biological Chemistry	Salazkin	1862	Ilyin	1866
8.	Pharmacology	Likhatcheff	1866	Gramenitzky	1882
9.	Pathol. Anatomy	Schohr	1872	Syssoeff	1885
10.	Patholog. Physiology	Khalatoff	1884	Vacancy to be filled through competition.	
11.	Operative Surgery	Sussloff	1867	Mrs. Lisovsky	1876
12.	Microbiology	Zabolotny	1866	Ebert	1882
13.	Experim. Hygiene	Khlopin	1863	Ivanoff	1871
14.	Social Hygiene	Nikitin	1868	Frenkel	1869
15.	Labour Hygiene	Vacancy to be filled through competition		Koiransky	1886
16.	Educational Hygiene	Same as above		Griboiedoff	1875
17.	Legal Medicine	Tchistovich	1870	Tchistovich	1870
18.	Surgical Proped. Clinic.	Vacancy to be filled through competition		Guesse	1883

No.	Chair	Medical Institute of Leningrad. (Name of Professor)	Born	State Institute of Med. Sciences. (Name of Professor)	Born
19.	Therap. Proped. Clinic	Levin	1861	Rubel	1867
20.	Therap. Clinic (4th year)	Lang	1875	Glinchikoff	1878
21.	Surgical Clinic (4th year)	Taak	1880	Rokitzky	1870
22.	Gynecology and Obstetrics(Cl.)	Skrobansky	1873	Krivsky	1870
23.	Ophthalmology (Cl.)	Andogsky	1869	Zelenkovsky	1872
24.	Dermatology and V.D.	Mrs. Sakhnovsky	1882	Stein	1874
25.	Pediatrics (Clinic)	Krasnogorsky	1883	Furman	1874
26.	Neurology (Clinic)	Nikitin	1879	Bekhtereff	1857
27.	Psychiatry (Cl.)	Ostankoff	1868	Gerver	1873
28.	Hospital Therapy (Clinic, 5th year)	Chernorutzky	1884	Kondratovich	1873
29.	Hospital Surgery (Clinic, 5th year)	Djenalidze	1883	Grekoff	1867
30.	Oto-Rhino-Laryngology (Clinic)	Verkhovsky	1863	Belogolovoff	1874
31.	Infectious diseases (Clinic)	Ivashenzeff	1883	Rosenberg	1876
32.	Urology	Mrs. Lisovsky	1876	Vacancy, to be filled through competition	
33.	Phys. Therapy	Mrs. Lisovsky	-	Mihailovsky	1877
34.	Odontological Clinic	Lvoff	1884	Lemberg	1894
35.	Tuberculosis (Docentship)	-		-	
36.	Reflexology	Bekhtereff	1857	Bekhtereff	1857.

S T A T I S T I C S

AGE	No. of Professors in both the Moscow and Leningrad Institutes.
30	3
33	1
34	1
37	1
41	1
42	2
43	4
44	9
45	5
46	3
47	4
48	4
49	6
59	3
51	7
52	6
53	13
54	6
55	5
56	4
57	11
58	3
59	6
60	6
61	7
62	4
63	4
64	2
65	2
66	2
67	1
70	3
72	1
73	1

AVERAGE 53 1/2 years.

10.- ADMISSION REQUIREMENTS.-

In pre-war times, women had access only to special schools, the chief of which were the Women's Medical Institution in Leningrad and the Second University at Moscow. They were always admitted by examination. Men were admitted also by examination unless they had received a certificate of graduation from a recognized gymnasium. Since the war, the requirements have been changed; so that now, for both sexes, a certificate is necessary from the secondary schools which have replaced the former gymnasia and professional schools.

Dr. Lichatchef, Professor of pharmacology in Leningrad, says:

> "During the Revolution, an attempt was made to accept as students even such people who had not passed through a grammar school, after a very superficial examination. This resulted in unprepared students. It did not lead to just as sad results as one might have expected, for the unprepared students proved unable to pass the examinations required by the medical school, in order to be transferred from class to class, and after a year or two, a majority of them left the school. It should be noted, however, that the overfilling of schools with students had a bad influence on the teaching. The students are supplied to the medical schools also by the so-called "Rebfaki" i.e. courses for workmen whose special aim is to prepare them for entering the Universities. Although the general culture of people graduating from workmen's courses is not high the preparation mostly proves satisfactory.
>
> "Due to the fact that already, in pre-revolution times and more especially during the last years, the Petrograd schools were unable to accept all those desirous of instruction, it was necessary, every year, to make a certain selection among the candidates to be admitted. In pre-revolution times, this was done by means of a comparison of credentials, those

being admitted who had the best papers. It should be mentioned that there were restrictions with regard to the Jews. At the present time, special commissions attend to the admittance of students and in compliance with the existing official rules, foremost preference is given to members of the Communist Party, persons having attended Workmen's Courses, and people commandeered by Professional Unions, persons belonging to the Workmen and Peasant class, etc. These methods of admittance account for the marked change in the class elements among the students, for instance those of the Military Medical Academy, as shown in a table below. The age of the students, at entrance, vary between 16 and 25, but most of them are 17 to 18 years old when they enter".

The entrance examination now is given in Russian Mathematics, Physics and General Culture, and the object of such examinations is to limit classes to the laboratory facilities of the faculties. The graduate of the Rabfak or working man's "University" (really a secondary school open to workers) automatically gets into the medical faculty without examination.

It is interesting to note that half of the students who entered the medical schools in 1918, 1919 and 1920, were dropped before reaching the fifth year. This is an example of the fact that a doctrinaire assumption that anyone is capable of receiving a university education is false enough to become self-evident over a period of a few years.

No copies of the entrance examination were secured. See Section 15, Source of Students.

In the opinion of Miss Alice Davis, of the Friends Society, who has mingled considerably with the students, it takes 300-500 roubles for the necessary coaching to pass the entrance examinations to the faculty of medicine.

11.-FEES OF STUDENTS, AND STUDENT LIFE.

In 1927, 50% of the medical students received aid from the State for their living expenses, 40% paid no tuition whatever, and 10% paid something for their education.

The object of State aid is, first, to provide careers for the children of workmen, peasants and state employees (there are about 50,000 students in all branches on Government stipends) and, second, to recruit ranks of rural practitioners. It is usually the bourgeois students who pay for their tuition, the maximum being 300 roubles a year.

The student who receives aid from the State gets 25 to 30 roubles a month. 40 roubles might be enough, but as it is the life of such students is next to that of a pauper. They live from two to six in a room, paying 2.50 roubles for rent, and 12 to 14 roubles for food (1). Books cost 5-10 roubles (20-40 cents) and are thus only occasional luxuries for the poor student. In Leningrad three text-books in the library were for 250 students.

(1) The University of Moscow announces that in 1926-1927 the University Refectories can take care of 2,400 students a day. A dinner of 2,000 calories costs 32 Kopeks, the University losing 6 Kopeks as the real cost is 38 Kopeks.

Much time is taken by political or semi-political associations, and this, together with the constant need to make a little money to supplement the government stipend, makes serious inroad upon many of the students' time. The report of the State examination committee in Moscow states in 1927 10% were prepared - 85% with mediocre preparation and 5% inadequately prepared. The reason for this lack of efficiency on the part of the students, as discovered by the Faculty Council, was the general over-crowding, the depressing financial conditions and the necessity to secure employment outside of the University, inadequacy of teaching equipment and the relatively small number of teaching forces as compared with the large number of members.

The obligation to the State which is incurred by acceptance of aid is discharged by three to five years service as a country doctor (see Distribution of Graduates, section 16).

Student living conditions in the recent past might themselves be easily responsible for the failure attributed to faculty methods of instruction, etc. According to a professor in the Leningrad Medical Institute the conditions in 1923 were improving. Dr. Gantt observes:

> "During the revolution the pecuniary position of the students became considerably worse, and the assistance of the State consisted in the issue of war payok ration to 1200 students which in 1920 were chosen to enjoy the so-called State supply. Those who did not receive that payok

were expected to pull through as best they could. Since this year conditions have improved, and the students have been allocated Rs. 200 (£ 1.-) per month besides payok and clothing. Moreover, many of the students get lodgings at student-homes established by the Government. Besides regular students there are also physicians studying at the Academy. These are partly physicians commandeered from military departments, partly better students kept on by the Academy after their graduation for improvement. The latter are kept on by the Academy for a period of two years after having written a competition composition (Formerly there were kept by the Academy each year ten physicians, now this number is only five). In former times three students were sent abroad each year on account of the State, for a two years' sojourn there. This system proved excellent, and most of the Petrograd professors, as well as those of the country, were of the number of such students.

"The following number of students enjoyed stipends at the Petrograd Medical Institute:

	Institute's Stipend.	Private Stipend.			
In 1913	57	182	Total 249.	Freed from tuition:	123.
In 1914	66	164	330.	" " "	127.
In 1923	525				

"The Students' Feeding Division of the American Relief Administration, conducted by Mr. S.M. Keeny, fed University students in Odessa, Kiev, Moscow and Leningrad from 1921, to 1924. About 12,000 students receive one meal each day, representing about 1,200 calories. Soup, meat, bread, and potatoes made up the menu, and the meal cost about 2 to 6 d. in Russia without cost of overhead. It was furnished free, of course, and constituted the only meal of the day to most of the students who ate in these kitchens. Many of the best students get their meals in this way and considered themselves extremely lucky.

"In 1923 many students of the medical schools get food from the American Relief Asministration. Thanks to this assistance students who otherwise would have been compelled to quit studying altogether were enabled to continue their studies".

A professor of the Leningrad Medical Institute states as follows:

"In pre-revolutionary times, the students of Medical Schools paid 50 gold roubles for each semester. An exception to the rule was the Military Medical Academy, where a great majority of the students were enjoying subsidies from the War Department and therefore were free from the payment of

fees. Other schools too used to exempt the most needy amongst the students and there existed State and Public and Private Funds, out of which subsidies were paid to a certain number of students. They were distributed by the school administration with participation of the students. After the revolution, payment of fees was abolished, but there was also discontinued payment of subsidies to the students (the bonds in which the subsidy fund was invested having been annulled by the Government). Also there were closed the students' kitchens, which were transformed into public kitchens for the population at large. All that made the conditions of the students very hard. The large majority of them, owing to these changed conditions, were compelled to combine with their studies some work in order to earn their living.

"Now the conditions of studying, as well as of life in general, are notably improved, although beginning with this year (1923) a fee is again required amounting to about 200 to 250 roubles (₰ 1. to £2.10.0) for a semester. Subsidies have been introduced again in a much larger number than there existed before the revolution, but the subsidies nowadays are distributed according to special rules, preference being given in this distribution to those who are members of the Communist Party or belong to the workmen or peasant class. There are also homes and kitchens being restored for use among the students".

The following is a quotation from the bulletin of the Medical Faculty of the I University in Moscow:

"The financial situation of the majority of the students is still quite precarious in spite of the fact that the rate of government stipend was increased up to 23/25 Roubles per month, and that the total amount of government subsidies for stipends was raised to 803,505 Roubles.

"One of the first actions of the new university senate was to go into the problem of student life. In order to bring about an improvement in their mode of living, special dormitories and refectories were organized. A system of loans for poor students was also established. The number of students in these dormitories was of 1728 in 1925 and of 2206 in 1926".

12.- DEGREES & QUALIFICATIONS.-

State examinations for Government commissions formerly were in vogue, before the applicant was permitted to practice. They were minimized during the war and abolished in the revolution, the schools being entitled to issue diplomas for the right of practice to all those who completed their courses. Now, State examinations are re-established.

There are two grades of qualification in Russian medical education, the lesser being the certificate of graduation from one of the established medical faculties, and the higher a document attesting to the satisfactory completion of higher or specialized study, this also being conferred by the faculty. In pre-revolutionary times, physicians desirous of devoting themselves to scientific career and of getting positions of teachers were first required to get the grade of doctor of medicine. The same grade was necessary for taking over certain administrative jobs. In order to get that grade physicians were to pass through special examinations for all the sciences for which they had already passed through examinations when graduating as physicians, and also to write up some scientific work as a "dissertation". This usually was a very considerable scientific work, and the writing of it frequently required several years of diligent work.

Since the revolution all scientific grades and titles, also that of doctors of medicine, have been officially abolished. However, even now schools are enabling those who are desirous of it to pass through examinations on a series of sciences closely connected with the speciality selected by the applicant. Those passing through such examinations are then expected to write a scientific work of the same kind as the former dissertations, after which they get from the school documents certifying to their scientific qualifications. Such qualifications are required from candidates for the posts of senior teachers. The former system, therefore, has kept up in its essential points.

There are thus no titles or degrees as we know them conferred, but it is apparent that the Commissariat of Education is actively supervising the examinations through a special commission for that end, which reported in 1927 that 10% of the medical students were well prepared for the final examinations, 85% had mediocre preparation and 5% were badly prepared.

It cannot be inferred that because all the medical faculties are under the Commissariat of Education the value of instruction in different faculties is approximately the same. The training at the Military Academy in Leningrad is still probably the highest in Russia, due to selection of students, strict internal discipline, and to superior teaching personnel. The medical training given outside

Leningrad and Moscow is probably uneven and of poor quality - Kharkoff possibly excepted.

13.- CURRICULUM

For an important discussion of the present and practically uniform curriculum from the government's point of view, see Appendix 2. The curriculum itself is the following:-

1st Year - 1st Semes.	No.of Hrs. per week. Lectures	Practical work	Total per Semester.
1. Normal Anatomy	2	5	126
2. Physics	3	4	126
3. General Biology	2	2	72
4. Gen. Chemistry (inorganic)	3	2	90
5. Social science	2	2	72
6. Military Sc[ces]	2	-	36
7. Foreign Languages	-	2	36
7 Subjects . . .		31	

1st Year - 2nd Semes.	No.of Hrs. per week Lectures	Practical work	Total per Semester
1. Normal Anatomy	2	4	108
2. Hist.& Embryology	2	4	108
3. Physics	2	3	90
4. General Biology	2	2	72
5. Gen. Chemistry (organ.& anal.)	3	5	144
6. Social science	2	2	72
7. Foreign Languages	-	2	36
7 Subjects . . .		35	

Total No. of hours per year - 1st year.

Anatomy	234
Histology	108
Physics	216
General Biology	144
General Chemistry	234
Social Science	144
Military Sciences	36
Foreign Languages	72
	1.188

2nd Year - 3rd Semester	No. of Hrs. per week: Lectures	Practical work	Total pr Semester
1. Normal Anatomy	1½	2½	72
2. Hist. & Embryology	2	4	108
3. Physiology	2	5	126
4. General Chemistry (phys.& colloïd)	2	-	36
5. Biol. Chemistry	2	3	90
6. Social Science	2	1	54
7. Military Sciences	2	-	36
8. Foreign Languages	-	2	36
8 Subjects	31		

2nd Year - 4th Semes.	No. of Hrs. per week: Lectures	Practical work	Total per Semester
1. Physiology	2	5	126
2. General Biology	2	2	72
3. Biol. Chemistry	2	4	108
4. Micro-biology	2	2	72
5. Elements in Geo-logy & Mineral.	2	-	36
6. Social Sciences	2	1	54
7. Foreign Languages	-	2	36
7 Subjects . . .	38		

Total No. of hours during the 2nd Year.

Normal Anatomy	72
Histology	108
Physiology	252
General Biology	72
Elements in Geology and Mineralogy	36
General Chemistry	36
Biolog. "	198
Micro-Biology	72
Military Sciences	36
Foreign Languages	72
	954

3rd Year - 5th Semester	No. of Hrs. pr. wk. Lectures	Practical work	Total per Semestee
1. Pathological Anatomy	2	2	72
2. " Physiology	2	2	72
3. Micro-Biology	2	3	90
4. Pharmacology	2	2	72
5. Experim. Hygiene	2	4	108
6. Social Hygiene (San. statistics, anthropology and anthropometry)	1	1	36
7. Propedeutics of Int. diseases	4		72
8. Propedeutics of surgical diseases	4		72
9. Operative surgery with topog. anat.	1	2	54
9 Subjects . . .	36		648

3rd Year - 6th Semester	No. of Hrs. pr. wk. Lectures	Practical work	Total per Semester
1. Pathological Anatomy	2	2	72
2. " Physiol.	2	2	72
3. Pharmacology	2	2	72
4. Experim. Hygiene	2	6	144
5. Midwifery (physiol. part)	1	-	18
6. Propedeutics of Int. diseases	4		72
7. Physical methods of treatment	3		54
8. Propedeutics of surgical diseases	4		72
9. Operative surgery with topog. anat.	1	2	54
9 Subjects . . .	35		630

Total No. of hours during the 3rd Year.

Pathological Anatomy	144
" Physiology	144
Micro-Biology	90
Pharmacology	144
Experimental Hygiene	252
Social Hygiene	36
Midwifery	18
Propedeutics of Int.Dis.	144
Physical methods of treatment	54
Propedeutics of Surg.Dis.	144
Operative surgery with topogr. anatomy	108
	1.278

4th Year - 7th Semester	No. of Hrs. per week: Lectures	Practical work	Total per Semester
1. Clin.of Int. diseases	5		90
2. " " Surg. " (with spec.orthopedic course wherever deemed necessary)	5		90
3. Clin. of Obstetrics & Gynecology	5		90
4. Clin.of Nerv. Diseases	6		108
5. " " Derm. & V.D.	4		72
6. " " Ophthalmology	2		36
7. Industrial Hygiene	2	-	36
8. School Hygiene	2	-	36
9. Legal medicine	2	2	72
10. Military Hygiene	2	-	36
10 Subjects	37		666

4th Year - 8th Semester	No. of Hrs. per week: Lectures	Practical work	Total per Semester
1. Clin.of Int.diseases	5		90
2. " " Surg. " (with spec.orthopedic course whrever deemed necessary)	6		108
3. Clin. of Obstetrics & Gynecology	5		90
4. Pediatrical clinic	4		72
5. Clin. of Derm. & V.D.	5		90
6. " " Ophthalmol.	1		18
7. Industrial Hygiene	-	3	54
8. School Hygiene	-	3	54
9. Clin. of Pediatrics	3	-	54
10. Legal medicine	1	2	54
10 Subjects	38		684

Total No. of hours during the 4th year.

Clinic of Internal Diseases	180
" " Surgical "	198
Gynecology & Obstetrics	180
Neurology	108
Psychiatry	72
Dermatology and V.D.	162
Ophthalmology	54
Industrial Hygiene	90
School Hygiene	90
Pediatrics	54
Legal Medicine	126
Military Hygiene	36
	1,350

5th Year - 9th Semester	No. of Hours per week. Lectures	Practical work	Total per Semester
1. Clin.of Int.Dis. (with a course of Tb. wherever necessary.)	5		90
2. Surg.clinic (with brief course of Urology)	4 3		72 54 126
3. Gynecology & Obstetr.	2		36
4. Odontology	3		54
5. Oto-rhino-laryng.	2		36
6. Psychiatry	4		72
7. Pediatrics (with course of infant disea.)	4		72
8. Ophthalmology	3		54
9. Social Hygiene	2	2	72
10. Military Hygiene	2	-	36
10 Subjects	36		648

5th Year - 10th Semes.	No. of Hours per week. Lectures	Practical work	Total per Semester
1. Clin. of Int.Dis.	4		72
2. " " Infect. Dis.	4		72
3. Surgical clinic	4		72
4. Gynecol. & Obstetr.	3		54
5. Oto-rhino-laryngol.	2		36
6. Nervous diseases	4		72
7. Clin. of Pediatr. (with course of infant diseases)	4		72
8. Dermatology & V.D.	2		36
9. Ophthalmology	3		54
10. Social Hygiene	2	2	72
11. Pathol.Anatomy (dissect.course)	1	1	36
11 Subjects	36		648

Total No. of hours during the 5th year.

Clinic of Internal Diseases	162
" " Infectious "	72
Surgical clinic	198
Clin. of Gynecology & Obstetrics	90
Odontology	54
Clin. of Oto-rhino-laryngology	72
" " Nervous diseases	72
" " Pediatrics	144
" " Dermatology & V.D.	36
" " Ophthalmology	108
Social Hygiene	144
Military Hygiene	36
Patholog. Anatomy (dissect.course)	36
	1.296

Distribution of Studies according to Semesters.

Autumn semester.

Beginning Sept. 1st, ending Jan. 31st = 153 days.

Of those: winter vacation = 21 days;

holidays = 6 " = 27 "

There remains = 126 days.

i. e. 18 weeks.

Spring semester.

Beginning Feb. 1st, ending June 15th = 135 days.

Of those: spring vacation = 5 days;

holidays = 4 " - 9 "

There remains= 126 days.

i.e. 18 weeks.

TOTAL : 36 weeks is equivalent of 216 working days.

Non working days: winter vacation = 21 days

spring " = 5 "

holidays = 10 "

Sundays = 36 "

Summer vacation = 77 "

Total non-working days . . . . . = 149

Only in Moscow and Leningrad are there four chairs of Hygiene in each faculty. In the smaller provincial universities there are only two - Experimental or General Hygiene, and Social Medicine. All courses given in Hygiene are compulsory and the clinicians complain that Hygiene is robbing too much of the time of the student.

The Social Science of the first two years is of course largely Communist doctrine and is analogous in importance to medicine to the course in American Institutions which is required for entrance to the Medical School of the University of California.

The student spends 5 years in a medical school, and there is some talk of requiring a sixth hospital year. Clinical work begins in the third year, with the physical examination of patients. From the third year to the fifth, the student is given more and more responsibility in the wards and at the same time devotes less and less time to lectures. In the fifth year, the student does clinical clerking, somewhat similar to the English medical student. Preparation for the State examinations takes an additional 3 to 6 months.

Very many students take a longer time than this for making their studies and remain at the schools seven years or more. This delay became especially frequent after the outbreak of the war, when many of the students left for the front line in the capacity

of "Sanitars" or assistants, or instead of studying, worked in the Petrograd Hospitals.

The first two years of the regular study period are occupied with chemistry, physics, anatomy, histology, physiology, biology and physiological chemistry, with laboratory and practical work in each. The fourth and fifth years are devoted to clinical work. Since the number of ordinators and assistantships in hospitals is small, the effort is to give a thorough practical experience in clinical work in the fifth year.

The work of the students is controlled by notes of laboratory work, practical tests, and by examinations. Apparently there is some latitude in this matter. The Military Academy prides itself on the strict rule of examinations at the end of each year and only two make-up examinations allowed a student in October. Other faculties refer to examinations at the end of the second year.

Up to 1906 the students were compelled at the end of the year to pass through examinations on all subjects they had studied during that year. In 1906 this system underwent some changes; the students were given more scope in regard to the time of passing through those examinations, but there was also required: 1) that the students pass through examinations on all subjects studied during the first two years before admitting them for work in the upper

classes, and 2) a definite order in passing through the examinations while in the upper classes. Now it is planned to return to an arrangement wimilar to the old system prior to 1906.

After having attended a medical school in order to get the right of practising, the students were compelled in pre-revolution times to pass again through a series of examinations (mostly theoretical sciences, such as anatomy, physiology, physiological chemistry, general pathology, pathological anatomy, pharmacology, pharmacy, hygiene, legal medicine, and also on all clinical subjects - in all twenty-three examinations) before special examination-commissions. The examinators of those commissions were teachers to high schools: to act as presidents to those commissions the Government usually nominated either the rector of the respective medical courses or well-known professors of medical sciences from other schools. After the war the number of examinations before government-commissions was reduced and during the revolution these examinations were altogether abolished, the schools being entitled to issue diplomas for the right of practising to all students who went through the course of studies without renewed examinations. At the time being, the examinations before the government-commissions are re-established. It is planned besides to compel the students in the near future, before giving them the right of practising, to spend one year at hospitals (not connected with the schools).

The following comment on the most recent curricula changes in the First University of Moscow is translated from the bulletin of the Faculty of Medicine.

During the school-year 1925-26, the Faculty council continued its previous attempts (ever since 1924) to bring about a change in the teaching methods by concentrating chiefly upon the seminary and laboratory methods xx of work and gradually giving up the purely theoretical methods. The number of theoretical hours was sacrificed and replaced by seminaries. The number of practical hours was also considerably increased. In certain subjects (organic and inorganic chemistry, pharmacology, physiology, pathological physiology), practical exercises have been made compulsory in the so-called "prophylactic disciplines" (general and social hygiene). Practical work in the field was made compulsory. A certain amount of ambulatorium work had to be done within the programme of teaching of social hygiene and the student was acquainted with dispensary methods. The teaching of clinical subjects was reorganized so as to bring about a close contact between the student and the everyday clinical work (in ambulatoria, laboratories and wards). This reorganization resulted in the creation of groups of students each of which is compelled to spend a certain amount of time in various clinics and taking an active part in their regular work.

The details of the main course in Hygiene (General Hygiene) in the I University of Moscow (Prof. Syssin) are of interest. The class is divided into groups of eighty students and for four weeks intensive period in each of two semesters they have five seminars of four hours each. In the second semester there is 140 hours of laboratory work (which includes excursions).

As indicative of the scope of work the following is the program of study in the first semester:

1) Bases of qualitative and quantitative chemical analysis.
2) Carbon dioxide - significance and tests for.
3) Measurement of humidity, wind velocity, sunlight, heat and atmospheric pressure.
4) Katathermy and effective temperatures. Making and reading of architectural plans.
5) Observation and inspection of buildings. Hygiene of dwellings.
6) Bacteriology and biology of water.
7) " " " " earth and air.
8) Examination period.
9) Observation and report on assigned hospitals from a sanitary standpoint. Report and defense of criticisms. Same regarding factory worker's houses.
10) One day spent with Sanitary inspector.

To give this course the Institute receives 500 roubles a semester (cf. 455 r. to Institute of Pharmacology).

14.-NUMBER OF STUDENTS.-

I have no recent figures by Faculties to show the distribution of students of medicine in Russia. I was told that in the 24 faculties of the U.S.S.R. there were approximately 24,000 students and that in the 15 Faculties of the R.S.F.S.R. there were 18,000. Bronner also said that there were about 7,000 doctors in Government rural practice and 28,000 as a total of the number of doctors in the U.S.S.R. The average professional life of a doctor is calculated as 28 years in Russia, so that replacement alone would require 1,000 graduates a year.

The percentage of medical students who graduate in relation to tltal enrollment of the school has been low: during the years 1916-22 2% to 6% at the State Institute of Medical Science in Leningrad from 1916-1922, the same range of percentages at the Military Academy for the year 1918-22, and the same for the Leningrad Medical Institute. Since 1922 the percentage graduating has increased, as is indicated by the report of the I Moscow Medical Faculty . 2,654 students have been regularly attending the lectures and practical work of the medical faculty during 1924-25. (1st year: 336 - 2nd year: 581 - 3rd year: 625 - 4th year: 538 - 5th year: 574) 601 students have completed their studies at the Faculty in 1925 and have obtained their doctor's degree. 2,449

students were registered in the faculty by the time of the opening of the 1926 spring semester. (1st year: 304 - 2nd year: 590 - 3rd year: 535 - 4th year: 484 - 5th year: 536). 419 students have completed their studies and obtained their doctor's degree in the spring of 1926.

15. SOURCE OF STUDENTS.

Very few phases of medical education under the Soviet government are more important and more distinctive than the source of the present student body. The future of medical and public health work in Russia will be influenced by the background, training and attitude of these students, by their qualities as well as their defects.

University life in Russia is thus influenced by a student body different from that of any other country as the following information from the I. University of Moscow indicates.

Table indicating the "social" origin of the students (September 1, 1926).

	Faculty of: Sciences	%	Law	%	Ethnology	Medecine	%	Total	%
Workmen	104	3.4	316	19.2	96	196	9.5	712	9.4
Children of workmen	309	10.2	157	9.5	77	420	20.5	963	12.7
Peasants	72	2.3	183	11.1	62	156	7.6	473	6.2
Peasants' children	324	10.7	166	10.1	58	343	16.8	891	11.8
Employees	971	38.5	389	23.7	152	349	17.0	1861	24.7
" ' children	805	26.7	150	9.1	137	313	15.2	1405	18.6
"Intellectual" workers (this includes a certain group of employees).A.M.	266	8.8	121	7.3	156	21	1.0	564	7.4
Their children	108	3.5	95	5.7	74	67	3.2	344	4.5
Non-working "element"	-	-	7	.4	-	-	-	7	-
Their children	9	0.2	19	1.1	6	26	1.2	60	0.7
Others	37	1.2	35	2.1	18	157	7.6	247	3.2
	3,005		1,638		836	2,048		7,527	

DIVISION ACCORDING TO POLITICAL VIEWS.

Members of the All Russian Communist Party	22.4% (	
Members of the All Russian Association of Communist Youth	33.2% ( )	55.6%
Students belonging to no political parties (so-called "impartial")		44.4%

DIVISION ACCORDING TO NATIONALITIES.

Russians	75.4%	White Russians	1.5%
Ukrainians	1.2%	Jews	14.3%

Mordva, Choovashes, Zyrians, Bashkirs, Boukharians, Uzbeks, Tadjiks, Tartars, Udmurts, Egyptians, Persians, - each of those nationalities from 0.1% to 0.5%. - Poles, Germans, British, Greeks, Latvians, Esthonians, each of those from 0.1% to 0.7%.

Great restrictions were made, beginning 1926, as regards the "social origin". Although entrance examinations have been rendered more difficult, the percentage of men and girls from the working class has remained the same/during 1925. The same applies to the percentage of communist members. About 31% of all University students come from the Rabfak.

This then is the picture at Moscow. In Leningrad at the Institute, Professor Lichatchef told me that 1,000 students apply for admission but that only 200 are taken. Of these 200, 100 come from the Rabfak (Workers' School) and the other hundred are chosen in the following order of preference:

1st. Factory workers' children and children of professors.
2nd. Children of government employees.
3rd. " " other workers.
4th. " " merchants, shopkeepers and bourgeois.

Professor Lichatchef admitted that the selection is not entirely by scholastic merit, but Professor Anitschoff corrected an otherwise erroneous impression by adding that the zeal of the students was as great, if not greater, than in Tsarist days. This was also the impression of Professor Stern in the Second University in Moscow, who said that never had she seen students in Switzerland so eager to learn nor so implicitly confident of the value of knowledge.

One further fact regarding the composition of the student bodies in the Medical Faculties: the proportion of girls is high - as high as 75% in the schools originally founded for women like the Second University in Moscow or the Leningrad Medical Institute, and usually not below 40% in the other faculties which are now open to women (except the Military Medical Academy in Leningrad). I had the impression that the girl who would take a nurse's training in Canada would in Russia enter a medical school.

16.-DISTRIBUTION OF GRADUATES.

The distribution of doctors is the great problem for the Soviet government, for the country doctor is badly needed, as there are only 7,000 now for the huge territory of the U.S.S.R. It has always been so - there were virtually no country doctors in Tsarist times. The post of Zemstrovratch, or district doctor, was regarded as a sacrifice, if not a martyrdom. The ignorance and stupidity of the peasant, his lack of appreciation or intelligent co-operation of a doctor's services, made a doctor's life hard and the ineffable isolation of many stations from any center of culture or congenial companionship was and still is the final argument against "going into the periphery".

There are 1500 doctors of medicine in Moscow who refuse to go into the country, though places await them... nominally. Professor Bronner told me that 50% of medical graduates in Moscow stay on in the city, whereas only 16% of graduates in Irkutsk stay on in the city. He is consequently in favor of spending more upon the provincial faculties which really help to solve the pressing problem of getting doctors into the districts. Even the Rabfak candidates for admission to the medical school are chosen more carefully than before, and those willing to go to the provinces are given the preference.

The government stipends for students are used to oblige the graduates to go into practice for at least a term of 3 or 5 years.

A talk with a young woman graduate at present serving her time in the district of Putiloro near Leningrad cast some light on this question. Dr. Natalie Sviazheninoff graduated in 1923 from the Leningrad Medical Institute. She speaks German, English and French. She has been stationed in Putilovo, a town of 8,000 and, with a younger girl (M.D.) as an assistant, has a district containing 19,000 people to attend to. She is responsible for a 30-bed hospital and 200 outpatients a day. The radius of her calls is 30 kilometers. She was on leave with retinal hemorrhages and had been much overworked. For this service she is paid 90 roubles a month. She said the reason for the unwillingness of young doctors to "go to the periphery" is the certainty of overwork and underpay.

The proportion of doctors in Russia is 1: 5,800 population, and roughly one-tenth of these doctors are women. About one-third of the medical profession succumbed during the recent famine and epidemics. The proportion of doctors in the United States is 1: 800, and in Great Britain about 1: 1400.

It would appear that by means of exorbitant taxation the government attempts to frighten the weaker doctors out of private practice. Doctors can do private practice "but they prefer not to". The professors and well-known consultants make money all the same.

The men in the service of the Narkomsdrav are on full-time "so far as is known". This includes a large number of doctors in the cities and all the doctors in the districts.

17.- IMPORTANCE AS MEDICAL CENTERS.

From what I have read and seen and heard, I should say that the Military Medical Academy in Leningrad was the most important medical school in Russia. In second place, I would put the Medical Faculty of the I University in Moscow. A close third is the Leningrad Medical Institute. Fourth, the Faculty of the II University at Moscow and fifth, the State Medical Institute in Leningrad.

Among the provincial universities, Kharkoff[1] is important as the principal school in the Ukraine.[2] Saratov and Kazan are also important centers. Kiev and Odessa rank after Kharkoff in the Ukraine.

The Military Medical Academy has a great tradition as the cradle of great professors all over Russia, and it still

(1) The new medical school in Kharkoff is formed by the combination of the Faculty of Medicine and the Women's Medical College. The old buildings have been renovated and newly-equipped.

(2) The Ukraine is the largest, richest, and most powerful republic outside Great Russia.

has a strong personnel and a higher standard than the other schools. The close association between medicine and the public health service and its institutions for investigation and teaching give a certain advantage to the schools in the capital, and of these the First University is easily the more important.

18.-STATUS OF RESEARCH.

Research in the medical sciences if going on more actively in the special institutes outside the faculties than within the teaching institutions. This is due to the fact that the research institutes are often new and especially favored by the Communists, whereas the faculties of medicine are looked to for their most needed product - young doctors, and are crowded with teaching responsibilities for their immediate production.

The principal factors in the research work done in the medical sciences in Russia today are:

1) The strain of the immediate past;
2) Heavy teaching duties;
3) Inadequate sums for research;
4) Intellectual isolation from the rest of the scientific world.

Some of these factors have a favorable side. Though the immediate past has been almost infinitely depressing and enervating, the present difficulties seem by comparison an enormous improvement. Work is natural and indeed a relief from an otherwise unbearable existence. The small sums in support of research at least emphasize the importance of ideas rather than technique and the originality of much of the present work is an evidence that isolation is not unrelated to a certain freshness in point of view.

The story of the past ten years and the struggle made by scientists to keep at their work is extraordinary. Gantt has written much on this theme and deserves to be quoted at length (See Appendix 5).

From 1918 through 1922, as a result of the general state of the country, research work was done under appalling conditions and science kept alive at the cost of enormous energy and heroic sacrifices of the individual workers. During 1924 and 1925 the living conditions of the scientists, though still precarious, greatly improved, and the Soviet Government rendered considerable financial aid to science. Some laboratories have returned to normal, many new ones have been formed, and there are a few institutes which surpass anything of their kind heretofore produced in Russia.

The spirit of research is prevalent and is being fostered. Science will suffer during the next decade or so from the emigration of former scientists, the lack of preparation in the pupils of the war and revolution periods, the lack of adaptation between the professor and the present type of student and from other inevitable adjustments to the new social conditions." The bringing of science under central control and Soviet patronage, though it may give a slight political colouring, is putting it on a much more stable financial basis than it was in old Russia." (1) The present

(1) W.H. Gantt.

position of science is, in the opinion of Dr. Gantt, one of the most hopeful signs in Soviet Russia.

The best recent work in medical research in Russia includes Pavlov's work on conditioned reflexes in animals; Krasnogorsky's work on children's conditioned reflexes, Orbeli's work on the effect of the sympathetic nerves on striped muscle fibres, Speransky's work on cerebro-spinal fluid in relation to rabies, diphtheria, measles and meningitis, Bogomoletz's work on prophylaxis of muscular fatigue, and on cancer, Bykov's work on the effect of vegetable juices on gastric secretion.

The report of the First University of Moscow shows commendable interest in research, but the enumeration of only the numbers of scientific works, 738, published, shows a rather primitive attitude towards the subject.

19.-TRAINING AND DEVELOPMENT OF TEACHERS.

The training of future teachers is a serious difficulty for the Medical Section of the Narkompros -- a difficulty becoming more and more apparent as death and retirement continue to make more chairs vacant.

There are few changes among the class of assistants more important than the increasing economic pressure to hold more than one assistantship (for the sake of supplementing an impossibly low salary). This results in a dissipation of energy and attention - and consequently slow and inadequate progress in any single branch of medicine. I was told that the qualifications for docentships had changed: now it is not the public defence of a thesis but published work and past record which counts. In theory, this sounds well, but the fact is that the general group of assistants is in a wretched position. They are underpaid, they have neither the reputation and training of the older professors nor the advantage in most cases of being young and ardent Communists. The ten years of greatest value in any young professor's life were years of war, revolution, famine and halting reconstruction. It is not remarkable that they are handicapped.

Professor Bronner and his colleagues have devised a system to recruit the academic personnel. This is the so-called

"aspirant" - comparable to a resident fellow locally or travelling between different faculties in the U.S.S.R. The aspirants are chosen by a central committee of which Bromner is the chief, the Glavpzofobr, from lists presented by the Rectors, who have in turn received nominations from local University commissions of 20-30 composed of professors, assistants, and (one-third) students.

The aspirant in the medical sciences begins just after graduation and works three years; in the clinical branches he is chosen from among the ordinators (internes) who are graduates of two or three years standing, and he too will remain an aspirant for three years. The aspirant aspires to the post of paid assistant, and during the third year he usually gets practice in teaching. The aspirant from the smaller faculties usually goes to a larger center, those from Moscow and Leningrad stay in these centers. Professors have no power to refuse or to choose the aspirants working with them, and there is some criticism that the aspirants are not closely enough controlled.

The Glavpzofobr is extremely anxious to improve this form of training by extending their travelling fellowships to foreign countries. Pirogoff had favored this and before the war there were a number of well-administered and well-paid foreign fellowships, especially at the Military Medical Academy. The value of foreign fellowships is a vivid memory in the Russian mind though the present

performance is inadequate.

In 1925, 80 foreign fellowships were awarded, in 1926 120. The maximum amount given for a foreign fellowship is 500 roubles, the usual amount 300 r. The costs are 50 r. for a passport for scientific purposes, 100 roubles return trip ticket to Germany (where most fellows go), 100 to 300 roubles for living expenses, and 50 roubles for extras. The men are carefully selected and a clear statement is required regarding later employment. There is no possibility of sending even the best as far as America.

Without much doubt these travelling fellows have many lacunae to fill in their period of foreign study, but it is likely that few travelling fellows work harder in the meagre time at their disposal. Germany, France and the Baltic countries are the principal countries visited.

I got the definite impression that foreign fellowships were so precious that every care is exercised to preserve the standing of these men in the countries visited.

Due to the complete change in the social status of the students, it is chiefly from the classes which have reason to be interested in the Soviet Government (workmen, peasants and communists) that the medical students are likely to be gathered. The future professors and doctors must come from the classes who now have the

opportunity for education. Although some of the old professors apprehend expulsion from their chairs when enough new régime professors will have been prepared to take their places, it does not seem likely, from the past policy of the Soviet Government in regard to science that they will expel an efficient professor for any other reason than counter-revolutionary political activity.

20.- ASSOCIATED INSTITUTES.-

As will be seen below, there are a large number of teaching and research institutes in Russia whose work is in the medical field but whose administration is not under the Commissariat of Education. The majority of these institutions are under the Narkomsdrav or Commissariat of Public Health.

The most important group of such institutions under the Narkomsdrav, of which Professor Bach (see below) is the chief, are the following:

State Institute of Public Health,	Director	Professor	Bach.
Biochemical Institute,	"	"	"
Institute for Experimental Biology,	"	"	Koltsov.
" of Microbiology,	"	"	Barikin.
" " Nutrition,	"	"	Shaternikoff.
" for Control of Sera & Vaccines,	"	"	Diatropoff. (formerly Prof. Tarassevitch).
" of Physics and Biophysics,	"	"	Lazareff.
" " Tropical Medicine,	"	"	Mazinoffski.
" " Sanitary Hygiene,	"	"	N.N.

Before giving individual descriptions of some of these institutions, it may be noted that Professor Bach told me they needed nothing, that literature was adequate and apparatus good. The contrary was the case with clinics and institutes of the medical faculties and some of the institutions of Narkomsdrav not in the above group.

Bach Institute, Moscow.- Professor Bach is an old revolutionist of 69 years who returned to Russia after the Revolution

from his exile in Switzerland. Address: Voronzov Polye 8. Director: Bach. Housed in an excellent building, splendidly equipped. The building was formerly a private residence which was nearly demolished during the Revolution and was the first building to be reconstructed in Moscow.

Staff: About 25 full-time and 20 part workers. First Assistant, Dr. Sbarsky. Second, W.A. Engelhardt (excellent English).

Problems: Mostly industrial chemical; e.g. tar, peat and pharmaceutical preparations. Also some purely scientific research, metabolism, enzyme action, physico-chemical and immunological.

Institute for Experimental Biology, Moscow.- Adjoins the Bach Institute and the Institute for Hygiene. These three buildings were the former residences of three rich merchants who founded and endowed the Institute for Experimental Biology. One of them expressed his desire that his house be used as a scientific institute after he fled from Russia. Director: N. Kolsoff. Organized in 1916. Good equipment, excellent library, good spirit.

Problems: Genetics, general physiology (physico-chemical).

Divided into following sections:

1) Physico-chemical;
2) Hydrobiology (station 60 Kilometers distant).
3) Hematology - blood groups, physical chemistry of blood.
4) General genetics. Domestic Animal Farm, 40 Km. away.
5) Eugenics, human hereditary traits.
6) Cytology.
7) Psychology - hereditary phases and studies.
8) Tissue culture and embryology.
9) Endocrinology.

Professor Kolzoff impresses one as being a very active investigator.

This institution described in detail by L.C. Dunn in letter to Dr. Hutchison of International Education Board.

Micro-Biological Institute, Moscow.- Address: Pogodinskaya 10.

Is housed in a large, old building which also contains the Institute for Tropical Diseases and the Institute for the Protection of Labour. Established in 1921, Director: W. Barikin.

Work: Epidemiology of typhus. Studies bearing on the epidemiology of cholera. Studies on the toxins of scarlatina, streptococcus, diphtheria, toxin and anti-toxin.

Institute for the Control of Serums and Vaccines, Moscow.

Address: 41, Sivzev, Vrajek. Director: Professor Diatropoff (formerly Tarassevitch). Established in 1919. Housed in an old building which has been well adapted to its present needs.

Work: Tests and standardizes all sera and vaccines made in Russia or imported, and assists the Public Health service as opportunity arises.

Staff: Eight doctors, - are expected to do research because routine duties consume only about 1/3 to 1/2 of their time. Laboratory is good, has enough ordinary materials and small animals, but has difficulty in getting new apparatus. Library is fairly good.

One room is devoted to a Metchnikoff Museum and contains all his manuscripts, notes and most of his correspondence.

Institute of Physics and Biophysics, Leningrad.

Director: Piotr Lazareff. Staff of 39. Sections are as follows:

1. Molecular physics.
2. Photo-chemistry.
3. Roentgenography.
4. Ionic theory.
5. Pure physics.

Institute large, well-built and well-equipped. Aside from work on electrical phenomena of the nerve impulse, most of the work is in applied physics. Large iron deposit discovered in Koursk gubernia by magnetic deflection studies, etc.

Institute for Tropical Diseases, Moscow.- Planned before the war, organized 1919, began work 1920.

Director: E.I. Marzinovsky.

Five Sections: Chemotherapy, protozoology, entomology, helminthology, clinical.

Problems: Bearing on malaria. The chemists are studying the effect of quinine on various ferment actions and the excretion of ferments during malaria. Entomologists studying mosquito metabolism. An interesting work was done on the relation of the p.H. of natural bodies of water to the presence of mosquitoes. They were found to be mostly absent when the p.H. was lower than 5.

There are of course a larger number of institutions carrying on relatively much less investigative work and more directly concerned with maintenance of the public health or the special preparation of members of the public health service. Some of these institutions accept medical students and aspirants, thus playing a considerable part in the training of doctors and teachers of medicine.

A model xxxxx is the Bronner Institute for Combatting Venereal Disease. It is under the Narkomsdrav and is lodged in a former large dormitory of the I University of Moscow. It was begun in December 1921 and now has a budget of 300,000 roubles a year, one half of which is paid in salaries to a personnel of 180,66 of whom are staff doctors. The O.P.D. has about 200,000 visits a year, and the hospital beds are occupied 23,000 sick days a year. The sections are:

1.	Social venerealogy.	
2.	Experimental "	
3.	Male gonorrhea	20 beds in hospital.
4.	Female "	15 " " "
5.	Dermatology	20 " " "
6.	Syphilis	50 " " "

14 aspirants work there and already three professors have been supplied from the staff. Three of the assistants in the Dermatological Clinic of the University work there (doubling their employment). Course of lectures is given each day in waiting rooms by young assistants.

This institute has 159 branches and 149 mobile diagnostic units making venereal surveys all over U.S.S.R. (Trans-

baikal region, 42% of the population have syphilis but no tabes or G.P., Caucasus has 26%, Turkestan 20%, etc.). There are accommodations for 50-60 doctors to live in the institution for a 4 months post-graduate course (twice a year), and during this time their home salaries are paid for their families and a further stipend of 60 roubles paid).

There is an extensive and impressive experimental section. Wassermanns twice a week on patients, twice a week on certain experimental animals.

On the social side a home is maintained for unemployed infectious women, where 550 can work and receive more pay than if they continued on the streets, and receive controlled treatment. When they leave the home they receive a card giving them first preference at the employment bureaus.

I have gone into detail to show the spirit of some of the institutions in the Narkomsdrav.

Space prevents full description of the Institute of Social Hygiene under Molkov, Central Bacteriological Laboratory under J. Lewin, Metchnikoff Institute, and the State Scientific Institute for the Protection of Labor, under Livitsky - all in Moscow.

Two more Narkomsdrav institutions should be described: the State Institute for the Improvement of Doctors in Leningrad,

and the State Medical Institute in Leningrad.

The State Institute for the Improvement of Doctors has for an object the "completion of a doctor's medical training rather than detailed specialization". It has a large series of laboratories and a hospital of 425 beds with clinical privileges regarding 800 other hospital beds in the city. The management is excellent: Director Dr. Kharit. Though there is only one Communist on the staff, it is one of the best supported institutions in Leningrad.

The staff numbers 65, with 145 additional on temporary assignment. Several professors of the medical faculties lecture there.

The students are district doctors out of medical school at least 3 years, who come up on district (Gubsdrav) fellowships or on fellowship direct from Narkomsdrav. From 1885 to 1920 the average number of pupils was 333 per course, in the year 1925-26 the number was 1378 and in 1926-27, 1830. The course is 4 months long and is given twice a year. For the year 1925-1926:

25%	of	the	doctors	have	been	in	practice	3-5	years
26%	"	"	"	"	"	"	"	"	"	"	"	"	6-10	"
40%	"	"	"	"	"	"	"	"	"	"	"	"	11-20	"
9%	"	"	"	"	"	"	"	"	"	"	"	"	21 or more	"

In 1925-1926, 60% of the doctors were men, 40% women, and by ages they were divided as follows:

21% up to 30 years.
51% 31 to 40 "
21% 41 to 50 "
4% 51 to 55 "
3% above 55 years.

The laboratories were the best and cleanest I saw in Leningrad or Moscow. The Department of Bacteriology headed by Belonowsky. Has about 130 students, mostly bacteriologists from public laboratories. Instruction in new methods of bacteriological and serological diagnosis. Bacteriological laboratories are housed in a good building which is being renovated, well equipped. Two large rooms for class instruction with large desks equipped with gas and water, accommodating two men each. Many individual rooms for assistants.

Library fairly good (Belonowsky considers it very good). Not quite enough foreign journals.

The State Medical Institute - known usually as Gimsa, is really a medical school with a peculiar history and status. It was organized before the war as Bechtererew's Institute of Psychoneurology, from private gifts, and never limited the number of Jewish students. It has always been liberal and progressive in its teaching methods. Gerber is the present director and Nicolaieff the professor

of Experimental Medicine. At present feldschers are admitted to the 4th semester and are given degree after 3 1/2 more years. The enrolment is 1780 distributed thus: 1st year 250, 2nd year, 250, 3rd year 250, 4th year 480 and 5th year 550. This reduction in the lower classes represents the reaction against the come one come all theories of 1920-1924.

The clinical work is done at hospitals supported by the Narkomsdrav and there is much emphasis on the teaching of hygiene. I did not visit this institution. The laboratories and clinics are said to be poorly equipped.

Pavlov's Institute is now housed in a special new laboratory building which is excellently equipped and needs nothing in point of maintenance. I did not see London but met Pavlov and his assistants. It is a pure research institute and the work is of extraordinary interest.

R E C O M M E N D A T I O N S.

I recommend the following actions on the part of the Division of Medical Education of the Rockefeller Foundation:

1) Increase by the sum of five thousand dollars annually the present amount given to Russian Medical Faculties, and divided approximately as $3,000 to institutions under the Narkomspros and $2,000 to teaching institutions of the Narkomsdrav.

2) The extension of the teaching institutes of medicine in the U.S.S.R. of the present program of foreign fellowships administered by the Division of Medical Education of the Rockefeller Foundation, so that a few of the most able young medical scientists of a large but dangerously isolated country may be enabled to exchange information and acquire training.

3) Until time and opportunity be afforded for a thorough and prolonged visit to Russia no extension of these recommendations need be considered as probable.

Alan Gregg.

Alan Gregg.

Exhibit D

~~APPENDIX IV.-~~

NUMBER OF STUDENTS.-

The Leningrad Medical Institute, formerly the Women's Medical Institute, was founded in 1897.

> "When inaugurated the institute was calculated for 1,500 students, with a yearly acceptance of 200 to 250. Due, however, to the enormous mass of those desirous to enter the Institute for study, this number increased after the revolution and exceeded 1,000 persons per year, and in 1919 the total number of those accepted reached 3,635.
>
> "At the present time it has been again decided to reduce the acceptance, for the Government has convinced itself that the Commissions of Professors were right in asserting that the school cannot so successfully handle so large a number of students. An idea of the number of students accepted during the various years since its foundation, as well as of the number of graduates and students working at the Institute, may be gathered from the following table:

	ALL CLASSES			YEARLY ADMISSIONS			GRADUATES		
Years	Total	Men	Women	Total	Men	Women	Total	Men	Women
1897	166		166	166		166			
1900	821		821	238		238			
1902	1597		1597	333		333	111		111
1910	1618		1618	187		187	246		246
1914	1149		1149	162		162	282		282
1915	1594		1594	599		599	85		85
1916	1720		1720	616		616	176		176
1917	2065	139	1926	519	139	380	80		80
1918	3287	601	2686	1827	592	1235	75	2	73
1919	3635	718	2917	1045	175	1230	37		27
1920	1833	255	1580	1059	145	914	25		25
1921	2320	458	1862	841	285	556	108	8	100
1922	2481	576	1905	829	250	579	136	15	121

STATE INSTITUTE OF MEDICAL SCIENCE.

The number of students and graduates from the State Institute of Medical Science is shown in the following tables:

	STUDENTS					
1910-1911	1911-12	1912-13	1913-14	1914-15	1915-16	1916-17
310	456	783	1014	1135	1297	1378

1917-18	1918-19	1919-20	1920-21		1921-22	1922-23
1480	1503	1511	1163	1 cl.	428	662
				2	503	752
				3	167	501
				4	108	164
				5	63	91
			Total:		1279	2170

The University of Saratov, which is one of the smaller medical schools, cared for 400 to 500 medical students before the War; in 1922 - 23 it had about 2,000 medical students enrolled. The ratio in the other schools outside of Leningrad has been practically the same in the University of Saratov, e.g. in the University of Odessa Medical School there were in 1914 nearly 1,000 students, in 1917, 1,500; in 1921, 3,500, and after 1921 there was a slight decrease again.

The number of students and graduates from the State Institute of Medical Science is shown in the following tables:

Students.

1910-11 ...	310.	1916-17 ...	1378
1911-12 ...	456.	1917-18 ...	1480
1912-13 ...	783.	1918-19 ...	1503
1913-14 ...	1014.	1919-20 ...	1511
1914-15 ...	1136.	1920-21 ...	1163
1915-16 ...	1297.	1921-22 ...	1279
		1922-23 ...	2170

Graduates.

	Men	Women		Men	Women
1916 ...	6	22	1919 (Dec.)	26	8
1917 ...	27	54	1921 ...	47	33
1918 ...	40	37	1922 ...	22	32
1919(July)	22	21	Total	190	207

The following table gives an idea of how the number of students, as well as their social class elements, have changed at the Military Medical Academy of Leningrad, formerly the Imperial Medical Academy.

NUMBER OF STUDENTS	1913-17	1918	1919	1920	1921	1922
Freshmen	321	486	1886	829	1054	671
TOTAL NUMBER	900	1257	2108	1682	1875	1715
% from Workmen and Peasants' Class	19%	30%	52%	62%	84%	93%

There graduated at the Academy: in 1913 - 160; 1914 - 130; in 1915, 1916, 1917, there were no graduates; 1918 - 72; 1919 - 108; 1920 - 68; 1921 - 48; 1922 - 52.

Newly admitted students totalled 65-75%, the remaining 35-25% was made up by students from the preceding year's admittance who had remained for the second year.

Exhibit E
~~APPENDIX V.~~

RESEARCH WORK.- (Quoted from W.H. Gantt).

Present Conditions.

From 1918 through 1922, as a result of the general state of the country, research work was done under appalling circumstances and science kept alive at the cost of enormous energy and sacrifice of the individual workers. During 1924 and 1925 the living condition of the scientists, though still precarious, has greatly improved, and the Soviet government has rendered considerable financial aid to science. Some laboratories have returned to normal, many new ones have been formed, and there are a few new institutes which surpass anything of their type heretofore produced in Russia.

The spirit of research is prevalent and is being fostered. There is a cordial and helpful relation between teacher and pupil. Although there are some irregularities in the method of work, they are compensated for by long hours and increased energy at other times.

Science will suffer during the next decade or so chiefly from the emigration of former scientists, the lack of preparation in the pupils of the War and Revolution periods and of the present type of student, and from inevitable adjustments to the present social conditions. The bringing of Science under central control and Soviet patronage, although it may give a slight political

colouring, is putting it on a much more stable financial basis than it was in old Russia. The present position of science is, in my opinion, one of the brightest spots in Soviet Russia (1).

In a subsequent paper I shall say something of the conditions of scientific work for foreigners in Russia, and give a few details of some of the important work.

Scientific work during and after the Revolution.-

Scientific work almost ceased. "Constant anxiety for food and fuel, endless waiting in queues, a half-starved beggarly existence could not but strongly affect the life of scientists. From 1918-1920 they, as well as all the other inhabitants of the cities, never left their houses without a bag on their backs in which to bring home bread, potatoes, etc. received as a ration. An eminent professor lived the winter through in his bath-room, as it was the only place that could be heated. It was a usual thing for men of science to carry up to their apartments wood and water, and to empty the sewage, as the lavatories did not function. Professor Bechtereff states that the neuro-psychical energy of an organism decreases with the decrease of nutrition. A general depression of personality results in passivity and lack of will-power. Besides resulting in a high mortality among the scientists in Leningrad, the center of

(1) Formerly the laboratory of Professor Pavlov at the Institute of Experimental Medicine had to support itself largely by selling the gastric juice of the experimental dogs.

mental life of the country, these hard years decreased the capacity and energy of those who survived".

Leaving aside the difficulty of working in unheated laboratories, examinations could not be done owing to the lack of gas, water and illumination. There was a total lack of both Russian and foreign literature[1]. "In order to write down one's observations, one had to use grey paper of a very bad quality which was stealthily bought from speculators (trading being prohibited). The self-made ink was usually prepared out of some dye hardly suitable for the purpose". Many scientists left Leningrad or were employed in some other kind of work. But "notwithstanding all the terrors, scientific life in Leningrad did not cease altogether. During the most difficult periods one could see men of science working in their overcoats, caps and snow shoes. Half-starved men continued to carry out their experiments on half-starved animals. Dead animals were cooked and fed to the living. After an operation, the animal was often taken home for the night to be kept near the stove with the investigator".

Scientific assemblies were held although the members had to go on foot and to sit in overcoats. Often a lamp or candle had to be used instead of electricity. By the end of 1919 scientific

(1)"When a foreign journal reached Petrograd, those who desired to read it, wrote their names in order and patiently waited the happy hour when their turn to read it came." From December 1918 there was only one medical journal in the whole of Russia.

life began to revive. In spite of the bad conditions, several new scientific societies were formed during these years and important work carried on.

There continues a chronic need of money and things in some institutes. Professor X. told me when he went into a public library to work during the winter of 1924, the ink was frozen, and that part of the time when he was lecturing, the temperature was 10 degrees Centigrade below freezing. The students were so chilled that they had to keep on their wrappings and stand during the lecture, "But", he remarked, they continued to come in spite of the cold".

The Russian medical profession offered themselves freely during these years and often without remuneration. They rendered the population no small assistance in checking the epidemics and carrying on other relief measures. Although foreign relief supplied much of the material and sometimes the stimulus for organization, the actual work was done by the natives, as the number of foreigners was too small to count for more than a stimulus.

It is interesting to consider the moral rectitude and unselfishness of the Russian physician during these horrible and hopeless years. They were existing at a time when the strain of living was so great that some of the population were driven to

eating human flesh and even killing members of their own family. In distributing large quantities of relief supplies through the Russian physicians, I never knew of a single case of theft by a physician, although they were in dire need. There were many cases of heroism, such as the following Fologda, a town of 50,000 near Arkhangel. On an inspection trip there we found the chief surgeon among others in great need. He had not had a new suit or overcoat for ten years, he was wearing trousers that were more patches than pants, and out of his salary of less than a pound sterling montly (in April 1923)/he had a wife and nine children to support. On returning to Leningrad, we sent him, and other doctors there, a relief clothing package. A few days later we received a gracious letter saying that he had given the package to a colleague more needy than himself, enclosing a letter of thanks from the recipient. As late as September 1925, I have seen research workers paying one half of their monthly salary for paper to chart their results, and many professors give part of their salary to support the laboratory where they work. Scientific workers receive from 7 to 100 rubles (less than £ 1. to £ 10.) These salaries are without rations.

Now, the physician's condition is considerably better than in 1922-1923, when his daily income was equal to seven times his tram fare, or one pound of sugar, and his yearly salary equal to the cost of two overcoats. But even at present it is impossible for a

person with a family to do more than stave off actual starvation on the official salary.

During the past few years the Russian physician has learned many ways of making the proverbial two ends meet. In the first place most of the eminent professors have two or three places teaching, in spite of the ruling that no one may teach in more than two places. A few write text-books.(1) Those not so eminent give language lessons, etc. Prominent clinicians have regained their practises and are making a comfortable living.(2) Those physicians who are old or cannot obtain outside work are still in dire circumstances. And no one has become rich in Russia; I do not know a single doctor who owns a motor-car (There are automobiles owned by the government at the disposal of the officials of the public health department). Communist officials

(1) All text-books are censored, accepted and printed by the Soviet Government. Seventy-five rubles are paid for 16 ordinary text-book pages, 20% of which is paid when the contract is signed, 60% when the mss. are completed, and 20% when the book is published. As the book is the property of the State, there are no further profits for the author. Professor Pavlov received 25 Roubles for 8,000 words of his book on conditioned reflexes. For special articles which the Soviet Government desires written it pays as much as ten times this amount, I am told.

(2) There are no rules prohibiting professors, the chiefs of hospitals, etc. receiving patients at their homes. The fee for an office visit is one to five rubles and for a house-call 2 to 20 roubles. A former surgeon to the Tsar's family told me he received in 1925 10 to 100 roubles for a major operation. Bills are not sent in Russia, but the patient (or his family) hands the doctor what he considers the proper amount as he leaves the house.

receive only 193 roubles monthly, in addition to many free privileges and some other ways of earning money. A prominent Communist doctor who occupied several positions told me the maximum he was able to earn was 400 roubles a month. This lack of wealth mitigates, by comparison, the misfortune of the poorest. Living in Russia is cheaper than the costs indicate because the standards of life are lower and wants are reduced to a minimum.

When I asked a Ukrainian doctor how he managed on his salary he replied: "By not eating much and going hungry". To one with an Anglo-Saxon appetite, it does seem that the Russian physician gets along remarkably well on little more than weak tea at frequent and irregular intervals. The need for dressing is also reduced to a minimum, although it may be due to traditional tendency or personal preference rather than present finances that some appear without socks and shirts in the summer. The doctor also buys few books or journals and his amusements are limited. If his wife is lucky or clever she also does some kind of remunerative work, as teaching, etc. One young scientist of my acquaintance who receives 10 roubles (£ 1.-) monthly gets food from his mother in the country, and the chief of the laboratory gives him a few roubles from his salary of 60 roubles monthly. Another, working in the laboratory of Professor Pavlov, lives by raising and selling fancy dogs during off hours at home.

Vacation & Recreation.- The lack of recreation and vacation has been trying on the Russian physician. It was out of the question for him to go to the theater, club, etc. for if any were open he had no money (1). Except for the past three summers few, including Communists, have had any vacation for six to ten years. Professor Pavlov was two summers without a vacation. A Russian scientist whom I met in Denmark in the summer of 1924 told me that was the first time he had been out of Leningrad for ten years. He was then travelling from the proceeds of a book he had just written. It is difficult to realize the strain of ten years without a rest or change even when one works under the most ideal conditions in the laboratory and lives comfortably at home.

There have arisen however many cooperative schemes which make life simpler and cheaper, such as rest homes for the summer. The Soviet Government bears the expenses of delegates to congresses, etc., and gives some of the eminent doctors and scientists money to go abroad for three to six months.

(1) In 1923 when I had the privilege of accompanying Professor Pavlov to the theater, he remarked that he had not been for five years. A Russian physician abroad in 1924 told me he had not eaten in any Russian hotel or restaurant since 1917. Another said that his favourite recreation nowadays is working in the laboratory at night.

Soviet Government and Science.- The life of many scientists and doctors is not only penurious, but anxious and uncertain. He is subject to the fears that have beset the intelligentzia in general (the secret police, G.P.U.), censorship of letters abroad, etc. These things may be necessary to maintain order, but they do not make for the mental tranquillity of the suspected.

Not being a student of politics, I have attempted to omit references to political principles. As everything in Russia is under the strictest political control, it is not possible to do this entirely.(1) Previously I stated that the Soviets had done what they could to foster the growth of science in Russia when this did not conflict with their political principles. This was my opinion from my personal observations in Russia, in 1922 and 1923. The political revolution has fallen however with a crushing weight on some of the foremost doctors, and there are some of these who think that the Soviet regime per se has had a deleterious effect on science, in addition to the former economical chaos. A Russian scientist of international reputation wrote me: "My feeling is that the Soviet authorities have done what they could with their unlimited means of destruction to kill science and inhibit its growth because free and independent thinking is in direct conflict with the Soviet political principles".

(1) See B.M.J., Sept. 20, 1924.

An equally pessimistic view is expressed by a younger scientist of Leningrad, who, while admitting the Soviet efforts and desire to benefit science, says that the psychological conditions are not conducive to scientific work - that the scientists themselves have been thrown into too prominent a social light, and that they are too dependent upon politics, the will of students, etc., and too uncertain as to the future.

The circumstances following on the War and Revolution have caused not a few to feel as an author of a scientific treatise wrote, that "This is more the record of a broken and shattered life than of a profitable completion of physiological work". There are others, however, outside the Communist party, who look forward with more optimism into the future, and say that they have no political grievances, that the government is doing all it can to help them in their work. Typical of this group, an eminent pathologist told me, "The conditions in Soviet Russia are much better than they were in Tsarist Russia for scientific work. As Soviet finances increase, more money is being given. The Narkompros (Minister of Education) is active in making scientific work more intensive and practical as they say that life can exist only with science. I think that scientists will be able to work entirely independently of politics, and will not be hampered in any way by political considerations. As an example I know of many monarchist professors who are now receiving

large amounts of money to carry on their scientific work. As we have never had democracy in Russia, I can not say what effect it would have upon science, but I think science will prosper much better under the Soviet regime than under the Tsarist government." The opinion of the director of one of the most famous research institutes in Russia, also not a Communist, told me that Soviet policy toward science in his institute had been constructive rather than destructive, and especially so during the past two years.

Expressive of the official Soviet attitude toward science, is the following extract from the greetings sent to the Academy of Sciences, on the day of its jubilee, Sept. 5, 1925 - an event which was eagerly celebrated by the Soviet Government. It is signed by L. Kameneff and the president of Soviet Russia, M. Kalinine:

> "The October revolution has removed the social relations which had impressed their character upon scientific work and hindered its development. The social order founded on private ownership, exploitation and national oppression provokes military collisions and retards the subdual of the forces of Nature by Man... The radical reorganization of social relations.... can not be solved without a development of Science in all its branches. The Socialist Society is creating for scientific thought conditions of true liberty... Lenin's estimation of the services of science is the basis of the policy of the Soviet State.
>
> "During the first hard years which followed the Revolution, the Soviet Power, forced to defend its existence... could not lend assistance.... to the scientific work. Nor could it insure to the scientific worker such conditions of life as are necessary for the productiveness of his work.... Science is international...."

Soviet respect for science is shown by the celebration of the 200th anniversary of the Academy of Sciences in Leningrad,

September 5-10, 1925. The event was given full, first page accounts in the government newspapers. The delegates from all over the world were guests of the Government, and received more cordial and hospitable treatment than the political visitors to Russia. Among other privileges they were given free use of the railroads and hotels all over Soviet Russia.

The fact that Lenin endorsed science has had a great influence, especially as Leninism has assumed somewhat the character of a State religion in Russia. In every government building (which includes most important buildings) is a room called "Lenin's Corner" (ykol Lenin) containing all the writings of Lenin and his pictures surrounded by his aphorisms.(1) The rooms are decorated in red and black, and there is an atmosphere of reverence which is strongly suggestive of the former chapels. It was due to Lenin's influence that Professor Pavlov was retained in Russia after the Revolution.

(1) One of these says: (Without science there is no communism" (bez naouki nyet kommunisma"). I have seen this several times in laboratories and public buildings.

Exhibit F

THE PUBLIC HEALTH SYSTEM OF SOVIET RUSSIA.

1927

by Professor N. Semaschko,
People's Commissar of Public Health, Moscow.

---

1. THE PEOPLE'S COMMISSARIAT OF PUBLIC HEALTH AND ITS ADMINISTRATIVE DEPARTMENTS.

CENTRAL ORGANIZATION.

A special People's Commissariat of Public Health was created by the Government of Soviet Russia in July, 1918, to give the public health system a position commensurate with its importance for society and the state. The activities of this Commissariat include not only medical and sanitary duties in a narrow sense, but also all the activities closely connected with public health are generally included under the term social hygiene.

1. Competency and duties of the Commissariat.

The first decrees as to the creation of a People's Commissariat of Public Health date from July 11 and 21; its present statutes were approved by the Council of People's Commissars in 1921.

The competency and duties of the Commissariat are expressed in general terms in Article 1. of the Statutes as follows: "1.- The duties of the People's Commissariat of Public Health consist in the administration of the entire public health system and the publishing of all regulations that serve to raise the level of public health among the people and remove conditions that are unfavorable of harmful to it".

Article 1.-thus gives the Commissariat permission to carry on any activities that serve to protect public health and requires of it, in accordance with modern principles, that it not only engage in

Die Gesundheitsverhältnisse in Sowjet-Russland. Deutsche med. Wchnschr., Leipz. u. Berl., 1921, xlvii.

active control of conditions that are notoriously harmful to health, but assist in raising the general level of health and increase the real capital to be found in the normal physiological condition of a people. Naturally such activities as race hygiene, eugenics, etc., are included in this definition.

Article II. of the Statutes describes the more detailed duties of the Commissariat of Public Health, as follows:

"The People's Commissariat of Public Health has the following aims:

a) Maternal and infant welfare; the physical training of youth.
b) Sanitary regulations, the sanitation of cities and communities, the organization of sanitary inspection.
c) The control of social and contagious diseases.
d) The organization of a medical service.
e) The preservation of health in the RedArmy and Navy.
f) Medical certification in cases of working inability and invalidity, as well as expert advice in medico-legal cases.
g) Collating and publishing statistics on the state of health in the Republic.
h) The study of scientific and practical questions in the public health field, and the administration of institutions created for this purpose.
i) Taking part in the organization of medical education in co-operation with the corresponding department of the People's Commissariat of Public Instruction.
k) Measures for spreading sanitary education.
l) The care of institutions of healing and sanitation, together with the instruments, therapeutic agencies and other necessary material.
m) The publication of new public health regulations, applying to all institutions and citizens in the Republic, and based on and further developing the regulations already in force.
n) Supervision of the work of the sanitary corps".

2. Organization of the Commissariat of Public Health.

a) The People's Commissar, the Council, central advisory committees.

At the head of the Commissariat are the People's Commissar, his immediate representative, and the council.

The Council is composed of the People's Commissar, his assistant, and three members appointed by the Council of People's Commissars. The directors of departments or institutions of the Commissariat take part in the meetings of the Council as advisory members. Furthermore, the heads of other Commissariats or professional associations are when required invited to be present as advising specialists in their own fields.

The scientific advisory committee of the People's Commissariat of Public Health is the Scientific Medical Board, which has to give its expert opinion as to the scientific basis of the actions of the Commissariat. The Medical Board has also the right to take up and study public health questions on its own account. The Board, according to its new rules, which are at present being worked out, is to consist of about thirty members, chosen by itself and approved by the People's Commissar. The Commissar himself, his assistant and the members of the Council are regular members of the Board. The Board has the authority to appoint committees, and can invite to its meetings or to those of its committees such persons as it considers useful.

Congresses shall be called for the discussion of steps to be taken in different fields of public health, and specialists in these fields shall be invited to attend them.

b) Scientific and model institutions.

A number of scientific institutions created within the Commissariat of Public Health help to work out the scientific problems that arise in connection with the development and perfecting of the public health services The work of these institutions is to be chiefly of a practical nature, in order to provide the Commissariat with scientific grounds upon which to base its activities. At the same time these institutions serve

to train specialists in the different branches of the service, such as tuberculosis control, for instance. The model institutions, whose chief aim is to serve as patterns for the erection of local medical, sanitary and social-hygienic institutions, also serve to some extent as training schools.

MOSCOW.-

1.- The Government Scientific Institute of Public Health composed of the following individual departments:
   a) The Microbiological Institute;
   b) The Hygienic Institute;
   c) The Institute for Experimental Biology;
   d) The Tropical Institute;
   e) The Serum and Vaccine Institute;
   f) The Institute for Physiological Nutrition;
   g) The Biochemical Institute;
   h) The Institute for Tuberculosis Research;
   i) The Institute for Organo-therapeutic Preparations.
2.- The Institute of Biological Physics.
3.- The State Venereological Institute.
4.- The Orthopedic and Physiatric Institute.
5.- The State Dental Institute.
6.- The State Institute of Social Hygiene.
7.- The Central State Bacteriological Institute.
8.- The Central State Vaccine Institute.
9.- The Physical Culture Institute.
10.- The State Institute for Maternal and Infant Welfare.
11.- The Medical-Pedological Institute.
12.- The Balneological Institute.

PETROGRAD.-

13.- The Institute of Experimental Medicine.
14.- The Orthopedic Institute.
15.- The Physical Culture Institute.
16.- The Obstetrical and Gynecological Institute.
17.- The Clinical Institute for Advanced Medical Work.
18.- The Roentgen and Radium Institute.
19.- The Polenoff Physio-surgical Institute.
20.- The Physio-therapeutic Institute.

IN THE PROVINCES.-

21.- The W. I. Lenin Clinical Institute in Kasan.
22.- The Bacteriological Institute in Sebastopol.
23.- The Bacteriological Institute in Tambow.
24.- The Bacteriological Institute in Rostow on the Don.
25.- The Bacteriological Institute in Krassnodar.
26.- The Microbiological Institute in Saratow.

27.- The Balneological Institute in Pjatigorsk.
28.- The Tuberculosis Institute in Jalta.
29.- The Tuberculosis Institute in Krassnodar.
30.- The Physio-therapeutic Institute in Tomsk.
31.- The Sjetschenoff Physio-therapeutic Institute in Sebastopol.
32.- The model institutes also have dispensaries for mothers, tubercular patients, sufferers from venereal diseases; further nurseries, sanatoria, convalescent homes, forest schools, etc.

c) Sections and departments of the People's Commissariat of Public Health.

The current activities of the Commissariat are under five administrative heads, and these sections ("Uprawlenije") are each divided into departments ("Otdjel") and sub-departments ("Otdjelenije").

The present administrative sections are,

1.- General administration (internal administration; medical personnel; finances; material equipment).
2.- Sanitary administration (sanitary activities; control of contagious diseases, including tuberculosis and venereal diseases; maternal and infant welfare; care of youth).
3.- Medical administration (general and individual medical service; expert sociological service).
4.- Hygiene and medical service for the departments of public communication, railways, etc.
5.- Administration of health resorts.
6.- Central military sanitary administration.

B. LOCAL ORGANS OF THE PUBLIC HEALTH SERVICE.-

1.- Public Health Bureaus of the Executive Committee.- The Public Health Departments of Governments and Regions are the only ones that have a separate existence, since the sanitary work of the districts is carried on by the medical department of the general district administration. Aside from this, both the Public Health Departments of the Governments and the medical departments of the districts act as local organs of the People's Commissariat of Public Health.

These government and region Public Health Departments are in their capacities as local civil administrations subordinated to the respective Executive

Committee, but they are at the same time, as far as their medical and sanitary activities are concerned, under the direct orders and control of the Commissariat, all the regulations and arrangements of the latter being obligatory in their case.

The activities of the government Public Health Departments are divided into a number of different sections that are more or less modelled on those of the central offices. The smaller the government in question, the less dense the population, the smaller the industrial community, etc., the simpler also the composition of the Health Department, as they are graded in this respect in three categories.

The entire work of the health departments has to be done with the active co-operation of the proletariat and the peasants. "Sanitary Advisers" are therefore attached to the local bureaus, consisting of members of the unions and of the associations for the dissemination of culture and information.

2.- Railway public health bureaus.-

The sanitary activities of the railroads are administered by the Railway Public Health Bureaus, that are directly subordinated to the People's Commissariat but also maintain a close relationship with the Railway Administration and the labor unions of railway employees. Proper co-ordination is maintained between these bureaus and the general civil public health departments by having each organization represented on the other's advisory and executive boards.

3.- Regional public health bureaus for sea and river communications.-

These bureaus correspond in number to those of the general sea and river administration. Regulations to prevent the admission of epidemic diseases by way of the sea boundaries are the work of this bureau.

4.- The Administration of health resorts.-

The health resorts of the Republic are divided into those that are of importance to the whole country and those that are only of local interest. The administration of the latter belongs to the local government Public Health Departments, while that of the former comes under the direct

administration of the Commissariat Section for the purpose. The activities of the different local health resorts are brought into mutual harmony by representatives of the Commissariat.

5.- Military public health bureaus.- The military-sanitary district bureaus form courts of second resort for the administration of public health in the RedArmy: in the government sanitation lies in the hands of a military-sanitary sub-department of the civil health departments, while in the districts it lies in the hands of special military-sanitary bureaus. These sub-departments have among other duties to decide and supervise the proper relations between the military and the civil administrations.

C. RELATIONS BETWEEN THE PEOPLE'S COMMISSARIAT OF PUBLIC HEALTH AND THE CORRESPONDING AUTHORITIES IN THE AUTONOMOUS REGIONS AND REPUBLICS.

The autonomous republics that have entered the Russian Socialist Federative Soviet Republic have their own Commissariats of Public Health, subordinate to the respective law-making bodies of these republics. The laws that have been created by the All-Russian Central Executive Committee apply to all the republics of the R.S.F.S.R., but the regulations of the central People's Commissariat of Public Health only apply to the autonomous republics in so far as this is provided for in special treaties.

In practice, however, such formal treaties are not the only way in which complete agreement is achieved between the activities of the different commissariats with those of the Commissariat of the R.S.F.S.R. The People's Commissariats of the autonomous republics are formed on the pattern of the Central Commissariat, and most of those who take part in the activities of the former are former workers of the Central Commissariat, and merely on that account supply a connection with the latter.

Furthermore, the constant interchange of information as to all new events in public health and the manner of meeting them tends to keep up the necessary

uniformity in administration. Of great value in this connection are the congresses that are called in Moscow for the discussion of sanitary questions and attended by representatives of all the commissariats and sanitary organizations.

In the autonomous regions the local medical administrations are organs of the People's C ommissariat of the R.S.F.S.R., and stand in the same relation to it as do the sanitary authorities of the governments.

The Union of Socialist Soviet Republics (U.S.S.R.) has no special Union public health department, but the right to "decree general measures required for the public health" was given the legislative organ of the Union in the U.S.S.R. Constitution of July 6, 1923.

THE EPIDEMICS AND THEIR CONTROL (1914-1923)

The years of war and revolution in Russia were at the same time years of frightful epidemics that followed close upon each other's heels and that reaped a rich harvest from the worn-out population. Right up to the present much labor and large sums have to be spent in the control of these plagues. However, the Soviet Government is now in a position to declare with the greatest positiveness that Russia has passed through the worst period of epidemics, the greatest and most dangerous of which, like cholera, have completely, or like typhus, mostly disappeared, and that we are now in a period in which epidemic control is showing positive results. The only disease at present to be considered as an active epidemic in Russia is relapsing fever, against which all our sanitary means are now being directed.

Even before the war Russia was always a country of uninterrupted plagues. As in other departments of public welfare, the government of the Czar paid little attention to the constant outbursts of infectious diseases, and only when such infections as cholera or the plague gained admittance to the country did it become active against them through its bureaucratic police organs. The so-called Semstvo medical systems were too weak to carry on infectious disease control in a rational and really large way, and the masses of the people, with no rights and with no training in methods or organization, were unable to oppose such diseases by any

concerted action, with the result that the loss of life in epidemics amounted to a large proportion of the total number of deaths in Russia. Before the war the annual death-rate in Russia was 26.5 per cent. During the pre-war period of 1905-1913, after the first revolution, a great cholera epidemic swept overRussia in 1908-1910, and others os typhus and relapsing fever in 1907 and 1908, while smallpox, typhoid fever, dysentery and infectious diseases of children were widely spread.

Bad as they had been before, the war of 1914-1918 made the sanitary conditions of the country much worse.

During the war 14,000,000 men were mobilized and sent to the fronts; the army had 11,000,000 dead, wounded and diseased, and of these 1,660,000 were entirely lost by death or irreparable injury. The so-called refugee movements also took place during these years, with whole populations simply thrown from the war zones into the interior of the country; up to 1917, 3,200,000 refugees were listed in the official registers alone. General sanitary conditions grew much worse - lack of houses, lack of fuel, the difficulty of obtaining food, the disorganization of transportation, all this helped to nourish the soil out of which the epidemics were to spring.

The civil war period complicated general conditions still more. The 1918-20 blockade, the unbroken internal confusion, the intervention of foreign powers, and finally the famine of 1921-22, all led to a further outbreak of epidemics. It would be very hard to try to express in figures all the losses incurred during this period. The general death-rate was 38 per cent during 1920, and the birth rate had fallen very low, amounting to only 25 per cent. According to the reports of the central statistical bureau, five million people died on account of the famine of 1922, which struck a number of governments.

This general picture of sanitary conditions in Russia at the time gives a sufficient idea of the state of the country; the main cause of the great mortality in this period was the widespread epidemics.

The great pandemics of typhus and relapsing fever must be given first place on the list. Even before the war, 70,000 to 80,000 cases of typhus could be counted on in the best years. The war immediately drove up these figures, and 154,800 cases of typhus were reported in 1915. Typhus was then spread over the whole country by

the ceaseless movements of troups with no proper sanitary control, and by the masses of refugees and prisoners, these people all living in narrow, dirty quarters, unable to wash either their bodies or their clothes. Typhus broke out in the same year in the Volga district, in Siberia, and in the Ural. In 1917 and 1918 the enormous demobilization and return of prisoners and refugees helped to spread the infection again, more intensively than ever, and the close of the year 1918 may be considered as the beginning of the gigantic pandemic of typhus that reached its maximum in 1920. We had sudden outbursts of typhus in St. Petersburg, on the Roumanian front and in the Volga in 1918; during 1919 and 1920, the years of bitter civil war, there were general outbursts of both typhus and relapsing fever, particularly in the army's field of operations. As the Denikin and Koltschak armies withdrew they left behind them thousands and thousands of sick men and thus created everywhere centers of infection for the civil population. On the other hand the lack of food in the cities started the so-called "Meschetschniki" movement, these people hurling themselves into the food-producing districts in their search for bread, overwhelming the railways and other means of communication. This of course rendered ever so much more favourable the conditions for the spread of infections. General figures for the two parasitic types of fever during these years are as follows:

Year.	Typhus exanthematus.		Relapsing fever.	
	Cases	Per 10,000	Cases	Per 10,000.
1918.	130,164	21.9	16.661	2.8
1919.	2,119,549	365.3	251.369	42.3
1920.	3,354,656	293.9	1,453,421	127.3
1921.	633,250	54.0	763,131	65.1
1922.	1,401,145	109.2	1,446,722	122.7

These figures need to be explained. The greatest extent of the pandemic was in 1920; the following year, 1921, there was a decrease, due to the extraordinary measures taken by the Soviet Government. A new increase is to be noted in 1922, but this took place almost entirely in the regions suffering from the famine, such as the Volga region, the Ukraine, Crimea, and part of the Ural. The successes achieved in the control of typhus were practically wiped out by the famine. The total number of cases for the two kinds of fever for the period 1918-1922 amounts to

8,000,000 of typhus and about 4,000,000 of relapsing fever. The death rate for typhus was 9-10 per cent, and for relapsing fever 2-3 per cent.

The literature on the subject states that the official data for typhus are extremely inexact. There is undoubtedly a great deal of truth in this, for a number of reports obtained through other channels from large cities (Moscow) where the statistics were exhaustive, lead one to believe that the number of cases should be placed much higher. On the other hand those who insist that simply untold numbers were attacked are wrong. This is for instance true of Professor Tarassewitch, who states in "Renseignements épidémiologiques", No. 2. May, 1922, that there were 30,000,000 people sick with typhus alone. If one takes into consideration the very low susceptibility of children, who form half of the population, to typhus, there would have had to be according to such calculations an almost total morbidity; at least one out of every two would have had to be sick. But this is evidently untrue, for the exact figures for Moscow, revised in order to obtain causes of death, show that the proportion was 1 to 8. This is also proved by the great increase in the number of cases in the famine districts in 1922, which would have been impossible if so many people had previously been immunized. All these calculations are of course of no practical value, as nobody denies that a great pandemic existed. But since the end of 1922 we have had a distinct and continuous decrease in these diseases throughout the whole country. These figures will go to prove it.

1923.	Typhus.	Relapsing fever.
January	52,008	62,339
February	42,658	41,883
March	38,057	31,809
April	28,968	23,156
May	22,925	17,337
June	11,512	9,870
July	5,969	8,462
August	4,284	8,487
September	2,463	5,142
Total	208,942	208,435.

The numbers decreased still further in October, 1923, with 2304 cases of typhus and 2849 of relapsing fever, and the same thing could be observed in the following months. It must further be stated that relapsing fever reteined an epidemic character in only a few governments

(those of the Ural and the north-western sections of Russia), in most other places there were only a few scattered cases.

The control of epidemics naturally occupied the center of interest in the organization of the public health service in Russia. During these years 250,000 beds were provided for infectious diseases, large numbers of quarantine and isolation stations were arranged for along the railroads, a few times movements along certain stretches were forbidden by Commissariat decrees, mass cleansing of the poor populations, combined with disinfection, was carried out under enormous difficulties. The lack of soap, underclothes, fuel, etc., hindered much of these efforts.

The People's Commissariat founded all of its typhus control on a widespread co-operation on the part of all the working classes. Many "bath weeks" were organized, during which hundreds of thousands were bathed, cleaned up and shaved free of charge, as well as "clean-up weeks", in which mass cleaning and repairing were done on public buildings and others that sheltered large crowds, such as railway stations, asylums, prisons, barracks, etc. The local committees of the "Struggle for Cleanliness" served as permanent institutions and were composed of representatives from the workers' and peasants' organizations, the unions, etc. Enormous amounts of pamphlets, posters and notices were distributed, while lectures and meetings were arranged. The government also opened large credits for the work of epidemic control.

Lastly, the scientific work connected with this question aroused great general interest. During this period seven All-RussianCongresses of Bacteriology and Epidemiology were held, together with a large number of local meetings. A Commission for the study of typhus worked with the Commissariat and had its findings published by the latter. The general direction of the practical work lay in the hands of the "Commission for the Execution of Epidemic Control", that worked with the Commissariat since 1918, and that counted among its members such noted epidemiologists as Professors Tarassewitsch, Sabolotny, Dietroptow, Barikin, Marzinowsky and others.

But the difficult struggle did accomplish results; the pandemics of typhus are broken, and the

Commissariat of Public Health is now confronted with the problem of preserving the country from any new eventuality, on the basis of what it has already gone through.

It must be pointed out that thousands of physicians, together with other members of the sanitary personnel, suffered greatly in the depressing struggle against typhus. In the years 1918-1920, 3,129 physicians, 41 per cent, fell ill in the Red Army alone, but these were to be sure also the most dangerous posts, as far as infection was concerned.

Another disease that has cost great expenditures of effort and money is cholera. An outbreak occurred during the war, as early as 1915, with over 30,000 cases, partly on the front and partly in the interior. The number of cases have been as follows since 1918.

Year	Cases
1918	41,289
1919	4,259
1920	25,923
1921	204,228
1922	86,178

Cholera was most widespread during 1922, the year of the famine. In contrast to the behavior of the other epidemics of before the war, it did not spread along the waterways, but along the railroads; there were further certain centers in which cases of cholera continued to occur during the entire winter. Here too we have a great decrease in the epidemic during 1922, and in the following year an almost complete disappearance, for only 117 cases were reported in 1923, of which 76 occurred in Rostow on the Don. Nowhere did isolated cases develop into an epidemic. No case whatever occurred in September 1923.

Vaccination was the chief control measure. It need only be stated that 10,000,000 in all were vaccinated in Russia in 1922, and that the whole Red Army was re-vaccinated. The People's Commissariat first of all created a whole network of bacteriological institutes and laboratories, an extensive piece of organization. There are at present 35 institutes scattered throughout the country, most of them created by the Soviet Government (Bacteriological Institutes in Taschkent, Tiflis,

Baku, Ekaterinodar, Sepastopol, Woronesch, Omsk, Saratow, Irkutsk, Ekaterinburg, Archangelsk, etc.) In Moscow were founded a Central Institute for the control of sera and vaccines and two Bacteriological Institutes, the Metschnikow Institute and the Microbiological Institute. A total amount of 22,000 liters of vaccines was produced in 1922.

As a general rule the entire Red Army and certain categories of officials and sanitary personnel were given mass vaccination. At the time of vaccination other mass measures were carried on for the cleansing of densely populated localities: "water supply weeks" when sources of water supply were cleansed, and new ones formed; "clean-up weeks", for the improvement of cleansing facilities and of water intake and outflow. The economic improvement in 1922-1923 made it possible to begin increasing the sources of water supply and canalization in a number of provincial towns, such as Archangel, Tula, Samara, Saratow, Odessa, N.-Novgorod, and others. A decree of September 13, 1923, issued by the Council of People's Commissars, entrusted the general direction of all this kind of work and the formulating of a general plan for the whole Republic to the Commissariat of Public Health. There is therefore a gigantic piece of work to be done.

Experiments with vaccination by way of mouth, by the Besredka method, were carried out in 1923; this kind of vaccine is at present prepared in Russian Institutes.

Typhoid fever and dysentery increased in 1920, but fell again the year after. The figures are as follows:

Year	Typhoid fever		Dysentery	
	Cases	Per 10,000	Cases	Per 10,000
1918	109,264	18.4	59,760	11.8
1919	270,168	45.4	184,919	31.5
1920	668,764	59.6	404,010	66.7
1921	463,704	35.4	279,482	31.8
1922	307,951	24.0	290,940	25.1

During the first nine months of 1923 there were 27,920 cases of dysentery. The same kind of vaccine, divaccine, played the determining role in the control of typhoid, although all known measures against both diseases were taken in so far as their spread by means of

water is concerned. Smallpox was fought with equal vigor by the People's Commissariat. Russia always had a fairly large number of cases of smallpox, mostly on account of the lack of compulsory vaccination. The war increased the number of non-vaccinated, and with them the number of cases of infection.

Smallpox in Russia, 1918-1922.

Year	Cases	Per 10,000
1918	29,738	5.2
1919	108,081	18.9
1920	152,094	14.8
1921	96,188	8.8
1922	57,840	4.5

Up to October, 1923, there were 37,803 cases of smallpox, therefore here too a decrease.

The Commissariat of Public Health already put through a decree for compulsory vaccination in 1919, and further regulations on the subject are being added. A whole string of new stations for the manufacture of vaccine have been opened, as well as a central Vaccine Institute in Moscow. At present the annual manufacture of vaccine amounts to 20,000,000 doses.

The children's infections, particularly scarlet fever and diphtheria, are very much less widespread. The number of cases has fallen considerably in comparison with before the war, and not until 1923 did a considerable increase appear, in scarlet fever.

The figures for the different years are as follows:

Year	Scarlet Fever		Diphtheria	
	Cases	Per 10,000	Cases	Per 10,000
1918	30,742	5.1	44,464	7.5
1919	48,130	8.0	40,129	6.7
1920	87,951	6.8	46,354	3.6
1921	112,185	8.7	39,732	3.1
1922	66,257	5.1	32,398	2.5

Unfortunately the lack of beds made it difficult to combat these diseases, and only now can one look forward to some measures being taken by the Commissariat. Sufficient diphtheria antitoxin is at present being manufactured in Russia.

The amount of scurvy increased a good deal

in 1916-1919 and 1922, mostly on account of the famine. During 1916-1917 it spread particularly along the Roumanian and the south-western fronts. As might be expected, the increase in 1922 is in the governments affected by the famine.

Two new contagious diseases, encephalitis lethargica and infectious jaundice, spread in 1921-1922, but did not reach any considerable dimensions as epidemics. A special commission has been appointed by the Commissariat to collect and study material dealing with encephalitis.

Another contagious disease is the plague, that threatened the Republic a number of times, and did break out in isolated centers. For instance, one important epidemic center existed in Manchuria in 1920-1921. In the following year ramifications of this epidemic were to be found in the Far Eastern Republic. 498 cases were reported in Vladivostock during this outbreak, and some ten others in different parts of the Orient. The localities in which an epizootic plague occurs among "Tarbagens" are also to be considered as plague centers. A new section for the plague has been created at the Irkutsk Bacteriological Institute, and a plague control laboratory opened in Chita.

The steppes of south-western Russia, the governments of Astrakhan and Ural, are also a region where the same epizootic occurs among weasels, and should be included in a list of plague centers. Two plague outbreaks occurred there, 27 cases in 1921, and 122 cases in 1922. November and December of 1923 there were also 120 cases in the same districts.

The same control measures were taken here. There is in Saratov a State Microbiological Institute with a large plague section under the direction of the well-known plague specialist, Professor Nikanorow, and a number of plague stations under this institute are scattered over the south-western steppes. Control expeditions, with vaccine and preventive equipment, are sent out when outbreak occurs. A plague section was also opened in 1923 in the Rostow Institute. Two meetings on the subject of plague control have been held in Saratow.

We have purposely left until the last a discussion of one infection, malaria, because it is the center of the entire epidemic control work of the Commissariat of Public Health. There were in Russia before the war large numbers of districts that always had a high malaria infection, such as Turkestan, the Caucasus, the lower Volga region. The total annual

number of cases in Russia before the war was about 3,000,000, and the war increased these too. The infection was spread over the entire country by the distribution of troops and other population groups from endemic districts. Malaria has spread enormously just in the past few years. There were over 2,000,000 cases reported in 1922, and the first nine months of 1923 gave 4,007,896 cases. The disease attacked not only the regions already noted for it, but also others in the far north, such as Archangel, Murman, Siberia, Even the most severe tropical forms were included in this distribution. Control of this epidemic was completely paralysed by the lack of quinine during the war and the revolution and by the breakdown of sanitary and technical institutions.

The Commissariat of Public Health has however developed an active campaign in this field. The first All-Russian Malaria Congress met in 1923, and the next one is to take place in January 1924. The general plan of attack has been worked out and approved by the Commissariat. One hundred malaria stations have already been opened in the Republic, each one with a laboratory, dispensaries, a clinic and a hospital; special courses for physicians are given, and the distribution of quinine regulated as much as possible, although the demands for it are far from being filled. The State Tropical Medicine Institute in Moscow opened in 1920, directs the work, and similar institutes exist in Taschkent (Turkestan) and Eriwan (Armenia).

Organizations such as the railroads, that have an interest in the decrease of malaria, have been drawn into the control work, and large sums of money are available for it. Projects of law have been worked out and placed before the Commissariat proposing a whole series of new rights and possibilities. At the same time the disease is so widely and intensively distributed that a long and hard struggle can be expected.

The above is a general picture of the advance and control of epidemic diseases in Russia during 1918-1923. It must be pointed out that the struggle against them has for the first time during these years of terrible epidemics, been placed upon a proper basis. The compulsory registration of contagious disease was first required in 1918. A large number of bacteriological institutes have been created and treatment with bacterial preparations carried out to some extent. There is for the first time compulsory vaccination on a large scale

against smallpox, and mass vaccination against cholera. Even other extensively introduced measures of a sanitary nature, such as cleaning, baths, improvement of water supply, were new to Russia.

The whole work of the Commissariat of Public Health was based on the extensive inclusion of the population for purposes of co-operation and further sanitary education. The legal norms for the sanitary institutions of the Republic are desdribed in the decree of the Council of People's Commissars of September 15, 1922. "On the sanitary institutions of the Republic", which lays the foundation for an unalterable, continuously active sanitary organization.

New Russia is faced with enormous problems in the sanitation of the country. The experiences of other countries, particularly Germany, the experience of the past years and their mass methods, and a deep faith in the powers of the new country give us absolute assurance that we shall reach our goal by a short and direct road.

III. SOCIAL DISEASE CONTROL.

1. The control of tuberculosis.

The Commissariat of Public Health has determined upon two indispensable requirements for success in the struggle against the social diseases, tuberculosis and venereal disease, and they are first, State administration of the work, and second, actual, direct co-operation on the part of the people.

There was before the war no regular control of tuberculosis. The work of the Tuberculosis League was of an entirely private nature; it had very little money at its disposal, and this consisted mostly of private donations. The State took no part in anti-tuberculosis work.

Although only the large cities had any fairly accurate or complete figures on tuberculosis, and there were none at all for the country as a whole, what statistics there are prove that the disease was widely distributed.

Tuberculosis Mortality Rate per 10,000 Inhabitants.

Year.	Leningrad.[x]	Year.	Moscow.
1912	34.8	1893.	43.5
1913	33.6	1898	39.6
1914	34.2	1903	32.1
1915	36.7	1908	29.9
1916	36.2	1915	24.1
1917	35.8	1916	24.7
1918	37.0	1917	23.3
1919	40.3	1918	22.2
1920	51.0	1919	29.9
1921	36.0	1920	39.7
		1921	28.1

1909-1913, yearly average of 34.6

x Not including soldiers.

It was after the October Revolution of 1917 that the question of tuberculosis as a social menace became a matter of prime importance to the Commissariat of Public Health. Tuberculosis control was made a permanent activity of the Commissariat, and placed in the hands of a special section, being recognized as a State function the solution of which was intimately connected with the entire social structure of the Republic. Tuberculosis control was founded, as were all the other public health activities, on the collaboration of the whole people.

The Commissariat, in its attempts to achieve this goal, collaborates closely with the Commissariat of Labor and with the latter's departments for the protection of workers within the unions. Such co-operation is particularly indispensable in the execution of measures of social hygiene, especially those against tuberculosis, and the working methods of new anti-tuberculosis institutions being created are based upon it.

The dispensary is the focus of the tuberculosis control measures worked out by the Tuberculosis Section, and is charged with both social and medical functions.

The medical measures of the dispensary take the form of physician's consultations for patients, and the medical assistance offered in the subsidiary insti-

tutions, such as clinics, night and day sanatoria, dietetic dining rooms, halls for sun and light treatments. Working in connection with the dispensaries are the hospitals to which the former can send patients. The preventive measures to be taken by the dispensary go in two directions - the home, in which the work of the visiting nurse is of prime importance, and the shop, factory, industrial or government establishment. In the latter case the dispensary activities are carried on with the assistance of the dispensary's own social service board, which is composed not only of the physicians and nurses employed, but also of representatives of the unions, workers' protective leagues, and other institutions within the radius served by the dispensary. The purpose of this board is not merely to give social aid to individual patients, but also to remove the unhygienic elements in the manufacturing or commercial enterprise, spread a knowledge of health laws among its workers, and induce them to take an active part in the prevention of tuberculosis.

Although the general idea of controlling tuberculosis by social means was generally accepted, at its outer edges, so to speak, it was not at first properly recognized that the dispensary should form the kernel of the organization. The public health administrations of the Governments were originally bound by the sanatorium idea. During 1919-1921 252 sanatoria for adults and children were opened in the R.S.F.S.R. and in the Ukraine, with 19,621 beds. The economic crisis of 1921 forced the closing of many sanatoria in the provinces, with the result that the importance of the dispensary, which reaches many times as many people as the sanatorium, was finally recognized, and attention paid to its development. Social disease control became the most important duty as soon as the results of the famine and epidemics had been to some extent obliterated, and this brought the question of dispensary administration into the foreground. We have at present 118 dispensaries and 201 sanatoria, with a total of 11,221 beds, in the R.S.F.S.R. and in the Ukraine. Most of the dispensaries are in the large cities, but sanatoria have recently been opened in small towns, even in villages. The newly built dispensaries are not only erected with the lively and active support of the people, but for the most part also with their own money.

The work of the Commissariat is very much handicapped in tuberculosis control by a lack not only of means but also of trained personnel. Fruitful work by the dispensaries and other related institutions depends both on the thoroughness of the scientific training of its workers in the special field and on the scientific solution of

the problems which the dispensary actually has to handle. The former must be taken care of by the instructors in tuberculosis in the universities. In theory, the creation of university chairs in tuberculosis has been approved, but in reality they only exist so far in Moscow and Charkov. Additional training for physicians who wish to specialize in tuberculosis is also offered at the Tuberculosis Institutes that have been founded during the past three years for the purpose of scientific work. Such Government institutes now exist in Moscow, Leningrad, Charkov, Jalta and Krasnodar, five in all, and we have further in Moscow the Tuberculosis Institute that belongs to the Moscow section of the Commissariat of Public Health. Scientific tuberculosis institutes have a department of social pathology, intended for the study of the disease as a special disease. The first thing done was the mass examination of industrial groups to determine to what extent tuberculosis is connected with industrial and social factors. A great many such mass examinations have already been carried out. The card indexes of the dispensaries and the observations made in these examinations offer rich material for a study of the incidence of tuberculosis in individual population groups.

The more distant parts of the country are made acquainted with the activities of the central organization by means of congresses at which both theoretical and practical subjects are discussed. The first All-Russian Tuberculosis Congress was held in Leningrad in February, 1922; the second in Moscow in May, 1923; the third is planned for Charkov in August, 1924. The Tuberculosis Section of the Commissariat of Public Health publishes the magazine, "Woprossy Tuberkulosa" (Tuberculosis Questions"), devoted to the scientific and practical aspects of the subject.

2. Venereal Disease Control.

The People's Commissariat of Public Health had two necessary lines of activity to pursue in the control of venereal diseases; first, to improve and extend special treatment, making it more available to the masses of the people, and second, to carry out a series of practical preventive measures. A great deal of work has been accomplished in both these fields during the past five years.

The first thing that had to be done was to find out the extent of venereal infection among the populations. The imperial and the civil war had undoubtedly done a

great deal to spread these infections, but it was hard to determine how much, for registration of venereal sufferers was imperfect even before the war, and the statistical departments after the war had not been able to obtain figures for the whole country.

However, surveys made in special sections throw some light on the subject. The following figures have been very carefully controlled, and give some idea of the extent of venereal infections.

The examination of70,000 soldiers of the RedArmy in the garrisons of Moscow and Leningrad shows, for Moscow, syphilis 0.4 per cent, gonorrhea 0.7 per cent, and for Leningrad, syphilis 0.9 per cent and gonorrhea 2 per cent. An anonymous questionnaire sent to the students in the higher institutions of Moscow showed that 19.3 per cent were or had been infected, 1.2 with syphilis. A similar questionaire sent on a large scale to the Moscow workers revealed 1 1/2 per cent infected with syphilis and 20 per cent with gonorrhea. The villages of the government of Smolensk, which were particularly affected, mostly with syphilis, had a rate of 12 per cent for this disease. These figures undoubtedly prove that the venereal diseases are widely distributed, but they also show that the degree of infection is much less than one would have had reason to suppose on account of the war.

This extensive distribution of infection requires increased measures for providing medical treatment, but they are at present far from sufficient, although they have been more than doubled between 1919 and 1923. There was one bed per 24,000 people in 1919, while in 1924 there is one bed per 9;600. But this is far from sufficient in the large centers.

Not only the hospitals, but the clinics and laboratories had their facilities increased. The most important advance in this line is the venereological dispensary, created since the war. We have now in the R.S.F.S.R. 44 such dispensaries, 35 in the Ukraine. These dispensaries are the centers for the entire public health work on the subject as well as for an enormous amount of medical aid. All patients that come to the dispensaries for advice also receive complete treatment, which is on principle absolutely free of charge. The kind of social hygiene work done in the dispensaries is of many kinds - information, examination, registration of patients, arranging social and family conditions, surveys of the causes that contribute to the increase of venereal diseases, studies on the sex requirements of workers, taking part in the control of prosti-

tution - all of this is successfully done by the dispensary, thanks to the close contact with the people themselves, who are induced to cooperate in venereal disease control.

Education in social hygiene, which is of special importance in Russia as the country of extra-genital syphilis, is widely spread over the whole country, including the rural districts. The results of this work are very great, for the country people affected with syphilis are extremely anxious to obtain treatment, they cease to consider venereal infection as a personal disgrace, and we have a number of cases in which meetings of thousands of peasants have decided to call in physicians to make a complete examination of their villages and mark for treatment those found to be suffering from infection.

The accomplishment of all the requirements of venereal disease control and the rapidly increasing number of dispensaries demand a great number of physicians, not only clinicians but also social hygiene specialists. The training of such specialists is in the hands of the Government Venereological Institute, which was founded two years ago in Moscow by the Commissariat of Public Health. This Institute consists of three large divisions, the clinical, the experimental, and the social. The Institute also has a large hospital with sections for syphilis, for dermatology and for male and female gonorrhea.

The experimental divisions of the Institute consists of the following sub-departments: microbiology, serology, cytology, vaccine, pathological anatomy, chemistry, and analysis. There is a model dispensary connected with the social hygiene division. The most prominent specialists help to carry on with the work of the Institute, and there are now 175 physicians studying there. During the past two years 350 physicians who are now working in different parts of the Republic received their special training at the Institute. In spite of its brief existence, the Institute has become an important center for scientific venereology, and publishes a journal entitled "Venereology and Dermatology".

The demands of active venereal disease control made it necessary to manufacture local salvarations preparations in Russia. Two of these are now being manufactured, of the "914" type "Novarsol" and "Novarsolan", equal in quality to any produced abroad. The chemical department of the Institute makes a bismuth preparation for the

treatment of syphilis that is in no way inferior to the French one as far as action and absence of all harmful phenomena are concerned. Recently there has been made preparation for the treatment of syphilis that is intended for internal use, on the French type. Biological experiments with it gave such promising results that clinical use of it will soon be begun.

The prevention of prostitution plays an important role in the control of venereal diseases. Although prostitution had begun to disappear during the war, when labor was compulsory and there were no unemployed, it has found new ground in which to develop in the capitalistic conditions of the new economic policy.

Special organs for its prevention were created in the provinces, their members appointed by the central Commissariat board for venereal disease control. The prevention of this social evil is based on a struggle not against the prostitute but against prostitution. The work is both preventive, aiming to prevent the unemployment of women and the vagrancy of women and children, and direct, aimed without mercy against all brothels and their keepers, and against procuration.

IV INFANCS AND CHILD WELFARE WORK.

1. Prenatal and Infant Welfare Work.

The present article is intended to give a general idea of the place occupied by maternal and child welfare work in the general system of the Soviet government and more particularly its place in the organization of the Health Department.

It must be emphasized that certain beginnings had been made in Russia even before the revolution. There was a well-known State organization, the All-Russian Mother and Child Protection Society, as well as a Society for the Reduction of Infant Mortality and a special association in Moscow founded by philanthropists and doctors interested in social work, and called The Society for Infant Welfare. But none of these organizations could develop properly, for public activities of this sort were always mistrusted in the Russia of the Czars, while it was a foregone conclus-

ion that in undertakings of this sort, of a purely social nature, failure would always ensue because the work was organized along bureaucratic lines.

As a social problem of importance to the entire country and closely allied with the welfare of the republic, infant welfare work was first organized after the October Revolution.

The organization of the work was entrusted to the people's Health Commissariat. The problems are many-sided, involving every phase of life. Not only the health of the mother and child in the narrow sense of the word are involved, but the protection of woman's work as mother, the problem of educating young girls, the reorganization of customs and the establishment of the right of mother and child to protection are all implicated. But the chief element remains the care of the coming generation. All child welfare institutions therefore possess a regular medical department.

The Division for infant welfare work inherited little in the way of past experience or material equipment. Outside of the four clinics and the home for mothers and children in Moscow, there was nothing to start with.

We have built upon the principles evolved by the experience of the Western world, but have adapted to fit our own conceptions the forms borrowed from Germany and America.

In the first place, we regard all infant welfare work as a government problem, and motherhood as a social duty of women. Not even a remote idea of philanthropy is involved. Helping the working mother is the duty of the State with respect to the future generations.

In the second place, we always consider women as workers and the various infant welfare institutions as means for lightening the burdens of motherhood.

That is why we have developed an institution not very prevalent in the West, the crèche. We do not consider a crèche a temporary measure, and do not look upon support of the mother in the home, so that she can stay with the child, as ideal, but believe instead that the crèche will be further developed and perfected. The aim of our institutions is to assist women to combine motherhood with other useful public work.

These are the fundamental principles in the light of which we have drawn up our institutions. The most fundamental of these, established as part of the campaign against disease and infant mortality, are the

crèches and the combined clinics and milk stations, open to all, and chiefly educational. These are our model public institutions, and following them come homes for mothers and children, where the mother can pass her legal rest period of two months before and two months after the birth of the child, and sometimes the entire nursing period. And finally, there are institutions of a closed type, such as homes for infants and homes for children of one to three years.

Child exposure, that shameful inheritance of the past, has not been entirely done away with in Soviet Russia, so that we still have plenty of infant homes. Homes for children of one to three years are filled almost exclusively with orphans, a frightful number of whom lost their parents by war, famine, or epidemic.

Entirely separate are the institutions for birth and prenatal work. In large centers such as Leningrad and partly in Moscow, the various institutions have been considerably developed. In Leningrad, for example, there is a whole complex of "Maternal and Child Welfare Stations" each one consisting of the following divisions:

1. Clinic for infants.
2. Clinics for children from one to three.
3. Clinic for pregnant women.
4. Tuberculosis specialist's office.
5. Venereal disease specialist's office.
6. Nutrition station.
7. Milk station.
8. Legal consultation.
9. Information bureau.

These stations, about twenty-three in number, are found in all parts of Leningrad. Emphasis should be given to the work of the legal consultation bureaus which constitute a measure against child exposure, because they require the father of an abandoned child to look to its maintenance. As the first year of these bureaus is just drawing to a close we cannot yet draw any extensive conclusions from their work.

These legal bureaus also provide the certificate with which the women obtain the insurance money for the prenatal and nursing periods. The support given consists of full monthly wages for two months before and two months after birth in the case of women doing physical work, and six weeks before and six weeks after for women doing

intellectual work. Nursing mothers for nine months receive support amounting to one-fourth of the average wage for that region. The insurance funds also donate for the care of the child a sum equal to one month's average wage. These insurance bureaus have nothing to do with the organization of the institutions, their duty is merely to pay out the money.

On January first, 1924, not counting the Ukraine, White Russia and the Caucasus, there were the following number of institutions:

Crèches	548
Mother and child homes	147
Children's homes	401
Children's clinics	185
Mothers' clinics	44
Maternity homes (This does not include the maternity homes found in hospitals)	35
Other institutions	20
Total	1350

The Public Health Commissariat has founded in Moscow a Scientific Institute for Motherhood and Infant Welfare, which studies questions related to the physiology and pathology of infants and which takes care of the training of specialists in this field. Its work is pursued in three directions. First of all, there is the theoretical study of questions related to the physiology and pathology of women and children, next, the drawing up of prophylactic measures and plans for the campaign against infant mortality, and third, the practical training of obstetricians, pediatricians, midwives, and nurses' instructors.

The institute contains clinics, laboratories, demonstrations, and gives a course for the preparation and training of the personnel. The scientific institute consists of three divisions.

1. Women's Division (Obstetrics, gynecology, out-patients).
2. Children's Division.
3. Scientific Division.

In the second group there is a division for new-born infants up to nine or ten days old, for normal infants, for those requiring artificial feeding, for children of six months to one year, for older children of one to three years.

This division takes care of normal children; and there are also others for premature cases, for syphilitics, a distribution division where children taken in by the institutions stay three weeks before being assigned, and a colony situated in the country for physically subnormal children.

The third division of scientific aid includes the general clinical, bacteriological and biochemical laboratories. A pathological-anatomical department with museum, X-Ray department, milk department, a food laboratory a large library, and an exhibit room of the Dresden type dealing with all phases of maternal infant care. This exhibition is used both for instruction and in connection with an extensive general educational campaign. There are at present 127 doctors and 434 women studying (midwives' and nurses' instructors) at the Institute.

At the latest All-Russian Pediatric Congress in May, 1923, the question of founding special University chairs for the study of infant physiology was taken up, but it was decided to postpone the matter temporarily, as a chair implies the development of an institution in which the students can obtain their practical training. For the present, an extension course in infant physiology has been attached to the regular course in children's diseases at all universities.

This is the plan and the method according to which we have been working for six years during civil war and economic difficulties. A period of peaceful prosperity will enable us to extend and to fortify these plans.

2. Protecting the health of children and adolescents.

The care of children and adolescents is also an outgrowth of the Revolution. Before that time, there existed at best in the capital cities some school hygiene at municipal expense, but no attention was paid to the care of the physically or psychically abnormal child. This was left entirely to private initiative. There was to be sure a school hygiene department in the Ministry of Education, but it did nothing but give some instruction of no practical value.

After the Revolution the care of children and young people became a State function. A department

for this purpose was created in November, 1917, and plans for its organization were worked out. This organization covers the care of the normal child, school sanitation, physical culture, and the care of the physically abnormal (tuberculous) and psychically abnormal (psychopathic, nervously diseased) child.

The department decided in 1918 to found a number of institutions for child welfarein Moscow, to serve as models for the rest of the country.

At the same time two higher educational institutions were created, the Physical Culture Institute and the Institute for Mentally Defective Children, the name of the latter being changed later on to that of Medical-Pedological Institute. In 1921 courses in exercises were begun again in Leningrad under the name, Institute of Physical Culture.

The department for the care of children and adolescents was transferred in 1918 from the Commissariat of Public Instruction to that of Public Health, thus being greatly assisted in the unified execution of its plans.

The following points grew out of several years of experience as the basis of the work.

1. Preventive measures in regard to normal and abnormal children, which are for administrative purposes divided into two parts:
   a) Inspection of sanitary conditions in child institutions and the care of the health of school children (pedology).
   b) Physical education. The same for abnormal children.
2. Medical pedology in regard to:
   a) Physical abnormal children (tuberculosis).
   b) Psychically abnormal children (mentally and morally).

The work of the divisions falls into two sections, scientific study and special training for physicians and teachers.

The creation of great corps of hygienists-pedologists and social eugenists by the special training of physicians was an enormous undertaking, and at first only a few short or one-year courses and later three to four year courses were created. The higher educational institutions of the department were the centers

forthis instruction. The improvement of the race and the working class as a social eugenic undertaking is the main feature of this training.

The scientific work of the division is carried on by the medical-pedological commission; by a number of scientific commissions that are appointed by the division to work out various problems of a medical-pedological nature together with the Commissariat of Public Health; and by the scientific professors, laboratories and commissions of the universities.

As the question of physical culture covers an enormous field, a plan of objective study was as far as possible worked out to permit the observation of the alterations of the organism as a result of physical exercise. The scientific department of the central government Institute of Physical Culture had to blaze a new trail. Organic reactions are particularly difficult to observe, and these reactions must furthermore be so numerous as to offer the possibility of determining the relative strength of different factors in producing them. The first step in this research was anthropometry, which however leaves many questions unanswered. The department of anthropometry is assisted by the physiological laboratory. At the same time intensive experiments are carried on in the laboratory to determine methods for obtaining a desired norm and exact dosage through certain exercises.

The state medical-pedological Institute has published a number of papers. In addition to its scientific work the Institute is also working on new ways of determining the norm and deviations from it in regard to learning ability as well as in different child types. Methods of measuring children's motor ability have been worked out, the Bannburg method simplified and adapted for measuring not only children'sadvancement but also their intellectual ability.

The Medical-Pedological Institute considers defective mentality as a psychic and neurological manifestation and includes it in the field of clinical pedology.

All the model experimental Institutes of the division serve the Institute as clinics. Among these are the general and dental children's clinics, the forest school, the dispensary for tuberculous children, the

psycho-neurological and the pedological clinics.

The children's dispensary, with its dental department, is the most typical, with office hours for specialists in all departments of medicine. These dispensaries are considered foci for the activities of all the physicians who are doing child welfare work. They also form the connecting link with the public by sending children to different special institutions, such as diet kitchens, or day sanatoria, and through the medical aid departments, home visits, etc.

Physically deficient children have the forest school as a model resort, the psychically deficient, the medical educational colonies.

Particular attention is paid to the health of working adolescents, who are the future qualified workers of the Republic. A decree of the People's Commissariat of October 13, 1922, requires that the working adolescent must be examined at regular intervals, not less than once a year. In case he proves to be doing work too heavy for his physical condition he must be put on lighter work. Other means of preventing physical debility of adolescents are sanatorium colonies, rest homes, health resorts, etc. The 1923 physical examination showed that Moscow had 35 per cent and Moscow government 30 per cent of its adolescents below normal as far as physical efficiency was concerned. It is also against the law for young people less than eighteen years old to go to work without a preliminary medical examination.

Physical culture forms a particularly important element in the struggle for health, and is carried out in the provincial institutions for the purpose. These are copies of the model institution, but on a smaller scale. The main agents for physical training on a large scale are the clubs of the Communist Young People's Unions (Komssomol) and the cultural clubs of the trade unions. There are at present in Moscow 250 workers' physical culture clubs, with 15,000 members.

The Central Government Physical Culture Institute of the Commissariat of Public Health is the center of proletarian physical education, with one of its purposes to prevent all deviation of physical training into professional sport or athletics.

We have at present in the All-Russian Central Executive Committee, under the chairmanship of the

Commissar of Public Health, a High Council for Physical Education, and in the different provincial commissariats local councils, all of them forming a single organ on which all proletarian associations and all authorities are represented, such as the Commissariats for Military Training, of Public Health, and of Public Instruction.

The educational part of the work is carried on by the Council with the co-operation of the division for the protection of children and adolescents. By a decree of the People's Commissar of September 15, 1921, this Council is composed of an equal number of representatives of the Commissariats of Public Health and of Public Instruction. Subordinate councils represent it in the provinces, and to these are added sanitary district councils and medical-pedological commissions.

V. THE PHYSICIANS.

Two periods must be distinguished in the condition of physicians as well as in the whole life of the country since the October Revolution: the period of civil war, and the period of transition to peace conditions.

During the civil war, the blockade, the famine and the epidemics, the position of the medical service, particularly the physician, was very glad. The fight against the enemy and against disease required colossal sacrifices from the entire people and relentless work on the part of all physicians. The latter were all too few, and in order to remedy this to some extent the Commissariat of Public Health was forced to license as hurriedly as possible persons who were insufficiently prepared but were nevertheless indispensable for the work of epidemic control.

Most of the physicians were mobilized for the Red Army, while the rest were conscripted for forced labor, in other words, every physician able to work had to do so for the state, and could only be appointed or dismissed by the Commissariat of Public Health. All physicians were registered, and the forced labor make it possible to use what physicians there were as rationally as possible in view of their insufficient numbers, since they were if necessary sent to the war or to epidemic areas.

The great majority of physicians met the demands of the Republic as fully as possible, and devoted themselves to the medical and health service of the country, in spite of having to work under the most difficult conditions, starving, suffering every kind of privation;

often dying in great numbers from the tasks that overwhelmed them. The success achieved in controlling the epidemics cost the country many hundred physicians. When the epidemics of typhus and relapsing fever were at their height, the morbidity of physicians fighting them reached 100 per cent, and their mortality 70 per cent.

Comrade Trotsky said, at the Third Public Health Congress in 1921, in praising the work of the physicians:

"The building up of the Red Army went hand in hand with the work of unnumbered physicians. If there had been no medical work done in the Red Army, the Red Army itself would have done no work at all".

Those physicians that remained at their regular posts had to carry on the whole work of epidemic control among the civil population.

The victory in the civil war and the decline of the epidemics made it possible to decrease the force of the government sanitary departments. This was also necessary on account of the transition to a regular budget and the lack of funds of the provinces and communities that were now made responsible for the expenses incurred by the public health service.

The great need for physicians grew less, and it became possible to improve the position of the medical personnel, do away with forced labor, and permit physicians to take up independent practice in vacant posts, which later, however, led to their bankruptcy.

Foreign physicians wishing to practice in Russia are regularly required to pass the University examinations, but according to an agreement with the Commissariat of Public Instruction, exceptions can be made in the case of men who have had years of scientific or practical experience.

Unfortunately we suffer less from an actual lack of physicians than we do from their unequal distribution. We have even a superfluity of them in the large cities, so that they have a hard time earning a living. According to the latest figures, there are 33,000 physicians in the U.S.S.R. Of these 22,000 are in the R.S.F.S.R., about 8,000 in the Ukraine, and the rest in the other republics of the union, such as White Russia, Azerbajan, Armenia, etc.

This number is of course insufficient for this enormous territory with its one hundred and thirty million

people. The Commissariat has estimated that at least 35,000 physicians are required for the entire medical needs of the R.S.F.S.R. alone. But the plan for furnishing them cannot be put into execution at present on account of lack of funds. For the same reason, makeshifts have to be endured in independent areas, such as barber-surgeons, etc., their places being filled as soon as possible with regular physicians.

While the counties and remote provinces have no physicians, the large cities have many that are unemployed. In Moscow, for instance, 4190 out of 5440 physicians have government positions, while out of the remaining 1250, 956 have registered at the Labor Exchange as having no work. In the Government of Leningrad there are 2608 physicians in the government employ, while 496 out of the remaining 632 are registered at the Labor Exchange. A large number of idle physicians are also registered in Crimea, Saratov, Kiew, O dessa, Voronesch and other large centers. Most of these are young men who have recently obtained a license and have not yet done their required year of practical work.

This uneven distribution is due partly to the low wages paid in the provinces and partly to the fact that the physicians themselves wish to remain in the cultural and scientific centers, as was always to some extent the case, only growing more pronounced in recent years.

The overwhelming mass of physicians are employed by the state, 29,500 in all. Those that have only a private practice, with no regular income whatever, are very few, only 3500, but they have often to register as needing work. Of the government-employed physicians, many also carry on private practice during their spare time, as this is not forbidden and helps to eke out the low government salary.

The physicians' difficult material position, which has a bad effect on the whole work of the Commissariat of Public Health, has led to Commissariat and the medical society, "Wsemedikosantrud", to work out some means of improving it. This subject has been presented as one of immediate and pressing importance to the highest central organization as well as to the local soviets, that support their pblic health institutions out of their own funds. Numerous congresses and the All-Russian

Central Council have recognized the necessity for measures of this kind. In spite of the financial difficulties of the country, the minimum wage is regularly being raised, and in some districts the results have already been noticeable. Other ways in which the lot of physicians is somewhat eased is by lowering their taxes and rent, giving them and their families pensions, etc.

Private practice in Soviet Russia is absolutely free. The only thing against which the government is opposed is medical advertising, but private practice can no longer be considered the source of income for most physicians. A few noted specialists in large cities have a large practice and large incomes. Otherwise private practice exists to any extent only where there are not enough state physicians. In comparison with before the war private medical practice has fallen very low, and continues to fall.

The whole intention of the Commissariat is to do away with the necessity for private practice by providing the whole country with qualified medical service at government expense. Social insurance for the worker, free hospital and dispensary treatment, the development of medical service given in the home, free child welfare consultations, all of these are intended to destroy private practice. And we see the results in the districts where such service is most fully developed and private practice at a minimum.

Professional interests are taken care of by the society, "Wsemedikosantrud", to which all the physicians of the republic belong. It is the organ of all workers in the medical field, physicians forming a separate section in it. The society also decides, aside from purely professional matters, all important questions of an administrative nature for the country and its different sections, in conjunction with the Commissariat of Public Health. Among these are the appointment and dismissal of physicians from their posts, the regulation of salaries and professional fees, the hours of work, the industrial insurance of the personnel, etc.

The Commissariat, together with this association, has worked out the legal norms determining the rights and duties of the medical personnel, as required by the particular trend of life in Russia. Not all of the above regulations, however, have yet been put into practice, due to the poverty of the country.

One of the most important duties of the Commissariat is providing a better medical education. During the war no schooling could be thought of, students were licensed as soon as possible, and there was almost no medical literature whatever, so that most doctors were left behind as to scientific information.

Since then the former institutions have been permitted by the Commissariat to take up their work again; new clinical institutes for advanced medical studies opened, and courses organized in the most important departments of soviet medicine, such as sanitary control, social diseases, maternal and infant welfare, etc. Advanced studies for practising physicians were made possible in the provinces by commandeering for the purpose the well-equipped provincial sanitary institutes.

The programs of the medical schools were altered so as to improve the quality of the medical education of new graduates, and the so-called practical year, which we have made really two years, was introduced.

VI. SANITARY EDUCATIONAL WORK.-

The extensive prophylactic measures carried out by the Soviet can be carried out only on the basis of considering them the activity of the laboring classes. Arousing the consciousness of the laboring classes to a pitch where they will become active in health work is, therefore, the foundation of the entire system of preventive medicine.

Educational health propaganda in Soviet Russia is not dependent upon the good will of this or that medical organization or society. It is an organic part of the official Health Department. It has central and provincial centers, as well as special institutions. The central direction of the educational work in the People's Health Commissariat is entrusted to the Health Education Division. In the various provinces, this work is taken care of by special medical instructors and in the smaller communities, it is done by district health officers.

This unified organization is active not only in the sanitary and epidemiological field, but also in the work of Mother and Child Welfare, and Tuberculosis and Venereal Disease prevention. In 1919 a model institution called the Public Health Exhibit was founded at

Moscow. The exhibition had nine divisions and about 5,000 exhibits. Recently a model library on popular public health subjects, has been added. It is also a center where various commissions study problems connected with public health work. It serves as an educational center for health officers, but is is also available to the public.

Some small idea of the character of the work done can be obtained from the admission statistics during the last two years. In 1922 there were 465, and in 1923, there were 989 groups admitted to the Exhibit. The entire number of visitors in these two years were respectively 10,950 and 19;758. If to these numbers are added the numbers of visitors who were unorganized, the figures amount to 22,875 and 44,492.

Among the groups in 1923, school groups amounted to 99; groups from other higher educational institutions 98; various children's institutions 49; other educational institutions 79; textile and factory centers 55; metal workers 43; health workers 45; communal workers 30; transportation labor 25; and agricultural labor 22, etc.

The Institute for Social Hygiene is the scientific center. This institute has at its disposal a large supply of exhibit material such as lantern slides and negatives. In the provinces we have health centers with a prominent exposition, auditorium, library and moveable exhibits, as well as collections of popular literature. Some of the larger centers have rooms for the preparation of such material. There is also a literature and a press bureau, in connection with these centers. The individual activities differ widely. There are about forty centers, all founded within the last five years. In addition to these, there are 25 places with permanent exhibits, and 80 with moveable exhibits. For the tremendous area of Soviet Russia this is entirely insufficient but if the brief period of time, severe economic conditions, and the total lack of preparation, are taken into consideration, it will be seen that Soviet medicine has obtained good results in this field.

Health education in the various model institutions is provided for partially by the government budget. The provincial and district institutions are on the local budget. The latter, in particular, also

share in the various culture and labor funds. Most of the work in health education is done by doctors, chiefly the health officials, school inspectors, and tuberculosis and venereal disease dispensary doctors. At the periphery, some use has been made of hospital doctors. Teachers for the present do not take any significant share in this work. By giving Hygiene a prominent place in the labor school, both in the second and in the first division, the next task has come to be that of educating teachers into efficient health instructors.

The unified organization of all health activities and the preference given to doctors and health officers does not signify that this work is kept apart from the general educational activities. On the contrary, health education is the bridge that connects the general health worker with the world of labor and hence with all labor activities.

All instruction connected with health education is closely tied up with the party organization, with communistic educational work among young people, and with general work among women and factory workers. There are standing committees composed of representatives of these various organizations who make it their business to coordinate and give a special application to the health work with an eye to the needs of the organizations they represent.

By means of contracts with numerous industries, health educational work is systematically taken care of and financed. The work itself is done by personnel from the health department and according to plans prepared by them. Systematic health work is carried on in the Red Army by having regular health lessons. In the same way, work is being done among the reserve military forces. The work has obtained a firm foothold among transportation personnel. In all other schools hygiene has been included. Other groups have health lectures. In two-thirds of the railway companies, railway car health exhibits are provided. Club work is the form that most health activities take in industrial work. There are occasional lectures, discussion evenings on health topics and provision of a health shelf or health corner in the library. All club libraries contain popular health literature. Good results have been obtained from various new methods including a periodical on live health questions of the day, collections every three days for fighting tuberculosis, venereal diseases, malaria, etc., health meetings, and especially health debates

and the production of health plays. There is hardly a place in Soviet Russia where a debate has not been held on prostitution, alcohol, and other thought provoking subjects. These debates are extremely popular and hold the interest of the audience for several hours. There have also been some lawsuits concerning houses of prostitution, provision of sanitary facilities, saloons, etc., the proceedings of which are also used as literature. In some cases courts were actually held in factories where laborers could attend. Testimony is given by doctors who explain points especially with a view to social hygiene conditions. Great interest is aroused by the production of plays dealing with health problems. The repertoire includes plays by Tolstoy such as "The First Alcohol Drinker", and "Advantages", "Hauptmann's "Sunrise", and quite a few plays constructed from stories by Chekov, Gorky, and Maupassant, as well as original satires on health subjects. Presentation of these plays is always accompanied by a lecture from a health officer.

A limited number of health films are in use. In 1923 some new films were obtained dealing with malaria and social diseases.

Among the agricultural population health work is done through the agricultural center, and the agricultural library. A model has been provided in Moscow. The Agricultural Museum there also has a library. Twice a week lectures are given with opportunities for discussion of which visiting farmers can take advantage. A library has been organized and much literature is given out. In provincial centers much the same plan is followed. In order to reach the homes, centers are provided with popular literature, placards, pamphlets, etc. The literature is so selected that if no health officer is present, a teacher or librarian can use it.

The chief work in the future must necessarily devolve upon the schools and the teachers. This question is now being considered by the health authorities who are considering the best means of reaching the great masses of the population. Health work is reaching the most remote parts of the Republic which only a short time ago groaned beneath the yoke of theCzar. The Jakuts and the Buriat Mongolian region in the East, as well as the mountainous region of Dagesten are beginning

to prepare health literature in their own languages. Health work of this sort among national minorities is something new.

Large tasks still remain but the close relation with other labor activities and the solid foundation upon biological and sociological principles give us the assurance that all difficulties will be overcome and that the Soviet Republic will attain the required degree of health culture.

Health work cannot be carried out without co-operation from the press. The publication office of the People's Commissariat which was organized in 1919 at the time of civil war and epidemics, has taken seriously its task of providing medical literature. The immediate needs occasioned by epidemics, it met by issuing a mass of literature on typhus, cholera, dysentery and other diseases. After that a special series of books, text books, and manuals were published to aid the large number of people who were combatting these epidemics.

In the process of carrying on this work, the publication activities have gradually broadened, taking on new themes and a more systematic character. Special attention has been given to social diseases and more especially, to tuberculosis. On this question, a number of brochures and a large number of pamphlets, as well as eight special collections were published. Then follows literature on venereal diseases and syphilis. A prominent place is given in the popular literature to questions of child welfare on which another series of pamphlets and placards treating of children's diseases, the care of children, and advice to mothers, are taken up. The breaking out of an unprecedented famine was reflected in publications on nutritional subjects especially on the nutrition of children and on nutritional standards. An extensive hunger literature has developed.

During 1919-1922 there were 202 separate publications and a total number of 13,000,000 copies of this popular health literature issued. Along side of this popular education there has been some development in more scientific work. In addition to the news bulletin published by the Health Commissariat which checks up on the development of Soviet medicine, various scientific periodicals were gradually published, among them "Clinical Medicine", "Gynecology and Obstetrics",

"Hygiene and Epidemiology", "Infants' Welfare Review", "Tuberculosis Questions", "Venereal Diseases and Dermatology", as well as periodic publications on tuberculosis and social hygiene. The People'sCommissariat, in spite of the high cost of printing, in 1920 and 1921 brought out a large number of text books for university/students.

At present, the Health Commissariat is publishing medical scientific literature as well as medical text books. There has been a special agreement with the scientific division of the Government publication office by which the Health Commissariat is represented as a member on the Publication Committee.

VII. HEALTH ACTIVITIES.-

Before the Revolution health activities were divided between several government departments. Some hospitals were run by the central Government, others by the district, and municipal governments. Quite a few health institutions and a small number of hospitals, especially those of the ambulatory type, were supported by sick or insurance funds of which, however, there were none before 1912. Because the hospitals were divided between various authorities, there was frequently duplication and the most uneconomical use of funds. A majority of the institutions were inaccessible to the large mass of people. The district and city hospitals which in 1910 included 33.6% of the total and which included 51.5% of all the beds in charitable hospitals of religious origin, all tried to follow the ideal of serving people for nothing. Naturally the service that could be given under these conditions left something to be desired. Hospitals were overcrowded. Dispensaries had very low hygienic standards.

The means for keeping up this net-work of district hospitals serving gratis, were supplied from district monies(x). In the cities, hospitals belong-

---

(x) ing ZEMSTVOS are a form of local self-government in which the better classes participated. Forty-three out of 83 provinces that existed before the War had this sort of local government. In spite of the loyal attitude of these "Zemstvos" to the old Czaristic régime, they never quite succeeded in evading imperial suspicion. For this reason some of their most democratic activities were systematically suppressed.

ing to the city authorities and supported by the city, gave aid only to the local population. Other hospitals belonging to various authorities, as a rule, required money for their services. Even the Red Cross activities were no exception in this respect. As far as participation of the working men in medical service was concerned, the whole organization bore an anti-labor and bourgeois aspect.

Only the better classes, and these only to a certain degree, had anything to say about the manner in which the health service was organized. The large masses of working people were not considered. The proletariat was not sure of receiving the simplest aid. As late as the year 1907 only 38% of the factories subject to inspection gave any medical aid. Twenty per cent, of the institutions provided dispensaries, 7% had hospitals, and 61% had no medical organization at all. This 61% included 16% of the workers. The 7% that had hospitals included 40% of the workers, and the 20% with dispensaries comprised 25% of the working population. ("Medical Help for Industrial Workers in 1907" by E.A. DEMENTJEFF, 1919).

According to data for 1912, 19% of the continually employed working men in cities, and 28% of the periodically employed working men received no aid at all. (Data presented to the Third Duma). Every now and then a place would be cited as a hospital, which had only two or three beds. In institutions where medical aid was officially organized only 44% of the working population could receive hospital service. The others had to be content with dispensary service or with none at all. This was because the working men had no special privileges compared with the rest of the people. The number of beds was not nearly enough to go around.

There was no question of medical aid at home or of aid such as that given in sanatoriums for mental diseases, for example. Such special services as these were a strict exception and were found only in the large cities. Medical service had only a very narrow task, that of supplying medical aid without any inquiry into economic or social conditions of the people requiring aid. No effort was made to give prophylactic care to the medical service, or to pay any attention to conditions under which the patients did their work. Even the district institutions which dealt especially with the

agricultural population limited themselves strictly to medical service and did nothing of a general sanitary or social hygienic nature such as infant welfare work, or campaigns against social diseases. This inactivity is partly explained by political conditions and partly by the ignorance of hygiene on the part of the people required to give this service.

After the Revolution, Russia inherited from the old régime in addition to many diseases, and a high death rate, a poorly organized system of hospitals, controlled by the more well-to-do among the population and to a large extent destroyed by War conditions. In the district governments this former hospital system provided for one bed for 618 people. For the whole country, the population was 813 to one bed, and in no place was there more than one bed for about three to four hundred people. In 1910 there was one physician for every 6,734 people, and for every 150 square versts, counting only the inhabited districts.

In the provinces the hospitals were of course very scarce and the more populated centers had acceptable hospitals for the bourgeoisie, but poorly organized hospitals for the people without means. After the October Revolution the process of uniting this entire system under the leadership of the People's Health Commissariat and its subdivisions in the provinces, the various health committees of peasant and working men's associations, began. All hospitals, no matter to whom they belonged, were given to the Health Department. There ensued a period of feverish building on the principle of free service and free entrance. This soon came to an end because of intervention by foreign governments and because of the civil war. A large part of the medical personnel and medical material was sent to the front; much property was destroyed or taken over by the enemy. Some hospitals were wrecked by bandits, and counter-revolutionaries.

The continual blockade also had a bad effect upon health work. Great demands were made on hospitals and some institutions also by the epidemics, but in spite of the destructive influence of the War and the unfavorable economic conditions of thecountry, constructive health work made steady progress during the Revolution. It was only the famine which prevailed in large areas, that did give the hospitals and some institutions a severe setback. There have been great losses which can only

be made good again as the economic situation slowly improves.

The principles upon which all health work is based and to which it largely owes its successful development are as follows: unity of all health activities as concerns leadership, control, and administration; the giving of all kinds of help without cost; the encouragement of high standards and specialization; close relations with the people; preferred treatment to insured people and members of their families; active participation by labor and agricultural organizations in reconstructing health institutions; inseparable connection of health work and sanitation and the same close organic relation between medical work and social preventive work, especially through dispensaries.

All these principles were in force when health activities were centralized and they have remained a guiding influence since health work changed to a local basis in 1921.

Even the financial crises which the Soviet Republics have undergone in recent years have not weakened these basic principles, especially that of giving medical aid free of charge and in increasing measure to the working masses, especially the proletariat who are the people most in need of it. The active participation of the laboring population through representatives from various labor organizations such as unions, funds, and committees, in any decision as to the administration of hospitals in cities and the similar participation of the agricultural population through its representatives in regard to hospitals in rural areas, has been of great aid in overcoming crises and has tended to bring about the healthy condition of labor control of hospitals, bringing them in very close contact with the people whom they are intended to serve.

A special part is played by the insurance societies whose representatives are not only a help in drawing up plans, but also in carrying them out.

The working man's insurance conferences which consist of representatives of all important industries, of all insurance activities, and of all organizations for the protection of labor, make it a habit to treat their basic question, plan, and expenditure, which has no relation to medical help, extend to insured

people.

This provides firm contact between health and labor activities. They understand each other. The entire net of hospitals is used first and foremost, to aid the insured. On the medical side, there is also cooperation with industries and insurance companies in that doctors have to determine incapability, and invalidity of laborers. This is done by commissions of doctors and experts. In providing medical aid for insured members, the contributions in the way of insurance fees are a genuine aid in providing service according to local budgets.

These contributions are partly paid for by the employer who takes care of 4.5% that are placed at the dispoal of the health authorities, and used for improving the medical service given to the insured. Altogether, the funds from this source cover about half of the expenditures for medical service, both in and out of hospitals, according to data taken from D.N. Schabanow's "Municipal Medical Sanitary Work in Russia. 1915"

According to a questionnaire distributed in 1915, one-third of all cities expended 1 to 10 kopeks for medical aid per inhabitant. Another third, 20 to 30 kopeks, while 33 cities expended 60 kopeks to one ruble which in 1923 would be 1 to 5 rubles. At present, the insurance contribution averages 12 gold rubles. Even so, the income from this source is merely a contribution to the local support taken care of by the local budget and the contribution that is used for the special benefit of insured persons.

Thanks to the possibility of providing this special service, the health authorities in N ovember, 1923 were able to maintain one bed to every 130 persons in the cityes of Russia. These data were obtained from the questionnaire. In the more important medical centers conditions were even more favorable; 1 bed per 100 insured persons including the family. Since the medical service has been improved there have been about 12 visits to the dispensary per insured person. In all factory and industrial centers except the very small ones, first aid organizations were established.

The number of places that provide first aid in the home is greatly increased. By the first of January 1922, we had 448 stations for first aid in the

home and 118 regular first aid centers. In the entire Russian Soviet Republic we have one doctor to every 3900 inhabitants.

With regard to some special kinds of medical aid, conditions are not so favorable, but always more favorable than before the War. I am referring to child welfare, obstetrical, gynecological, venereal, and ophthalmological institutions. There has been a great improvement in the field of dentistry and physiotherapy, but the number of beds for psychopathic cases has gone down. Before the Revolution there were almost no government dental dispensaries or laboratories, but at the beginning of 1924 there were 1902 government dental dispensaries with 1570 dental chairs not counting those in the army, at resorts, and railway organizations, or at the army and naval stations. In the S.S.S.R. not counting military dispensaries, we have 1843 government dental laboratories with 2298 chairs, 2218 dentists, and 134 assistants.

The insured population is served by 822 government dental dispensaries with 1080 chairs, 1393 dentists, and 62 assistants. In the S.S.S.R. there are 78 special educational dental dispensaries with 132 chairs and 150 dentists. Rural dispensaries exist to the number of 142, with 154 chairs, 118 dentists, and 8 assistants. All these data were obtained by questionnaire.

Government dentistry has become the dominating form of dental work. Another indication of the present trend is the distinct increase in the most expensive kind of medical service, --- physiotherapy. Before the War there were in Russia only 8 small institutes, whereas at present there are 32 government institutions for physiotherapy with 1500 beds, mostly organized during the Revolution. Fifteen of the 24 newly opened physiotherapy institutes were founded during the Revolution. Among these are a number of model institutions such as the Institute for Physiotherapy and Orthopedics at Moscow, the Traumatological Institute in Leningrad, the Institute for Physiotherapic treatment in Sebastopol, and the Radium and X-Ray Institute in Leningrad, all of which are used in the first place for the insured population. For nervous patients we have at present over 1500 beds while before the War we had only a few.

I cannot desist from mentioning a few of the achievements in the field of sanatoriums and health

resorts. There are a great many sanatorium beds and health resorts which, before the War, were totally inaccessible to the masses and are now largely given over to the insured population. The health resorts in the Crimea, in the Caucasus and at several other places in the Republic are doing important work in recent years.

Our sanatoria and health resorts to which we shall later devote a special article, occupy an important place in the system of health service which aims at the restoration of the incapacitated laborer.

Occupying the center of both scientific and practical activities in hospitals and other institutions, especially those for physiotherapy, are questions of labor, principally the problem of restoring the laborer to his work as quickly as possible. The whole net-work of hospitals at the service of the insured population, considers it its prime duty to be a means toward promoting labor conditions and health among laborers. The problem of preventing occupational diseases will be studied carefully.

Hospitals are beginning to occupy an important place in the campaign against industrial diseases in that they try to ferret out the causes of the diseases which they are called upon to handle. Activity of this sort brought results in some of the large centers although it still suffers from lack of well-prepared doctors and adequate means. One of the tasks of Soviet medicine is that of trying to popularize the methods of treatment used and advocated in the dispensaries.

In the same way, we conceive the task of rural medicine to be a social prophylactic one. The unit which, as a rule, consists of a dispensary and a hospital, is the means by which social hygienic knowledge is brought to the rural population. It is one of the bearers of health education. It organizes the campaigns against tuberculosis, venereal diseases, trachoma, and alcoholism. It does child welfare work, treats mothers and children, and takes care of mental cases. It forms the clearing-house for all autonomous activities of the agricultural population in the field of health. In other words, in our system, it is one of the outposts of health work among the people. Its duty is to perceive the presence of health dangers and to give the alarm at the proper time. It also aims to apply all its means and powers to the prevention of diseases and to a systematic protection of the health of the people. The fundamental principle

assuring the success of this work is the unalterable rule of giving medical aid free to the rural population.

To maintain this free treatment, the Republic has had to, and still must make the greatest sacrifices; after the difficult blockade years and the continuous civil war, we still managed at the beginning of 1922 to have one bed for every 381 persons instead of one per 649 as in 1913, the territories covered being identical. Districts under medical supervision had increased 41.2% at the beginning of 1922, and districts under "feldscher" had increased 46.8%, and the number of beds in hospitals 47.4%. The number of people per hospital had decreased 39.5%, and the districts served by each hospital had decreased about 24.3% (1621 sq. versts). The radius had been decreased by about 13.2% (28.8 versts). In the cities there were 79 people to one bed. In rural districts one bed for 1035 people. During the financial crisis and in connection with the transfer of all hospitals to local budgets, the hospitals, in the rural districts, at least, suffered some losses. However, there was still more service than there had been before the War.

Although the municipal hospital situation is in a comparatively good condition, it must be admitted that rural hospitals due to the War, famine, and intervention, are in a pretty bad condition. The lack of repair, equipment, instruments, laundry, medicines, bandages, heat, and supplies, which frequently prevails in rural hospitals, naturally leads to a decrease in attendance in comparison with cities, where hospitals are very well attended. Under these conditions, it is encouraging to note that in 1922, 71.6% of the attendance was at hospitals, and 28.4% consulted for medical aid, whereas in 1913, 66.6% attended hospitals and 33.4% were registered at the latter.

As can be seen in the fields of both municipal and rural medicine, conditions are still far from ideal. In the cities, there are not yet enough hospitals to satisfy requirements, especially where specialties are concerned. However, in the cities a gigantic task has been accomplished compared with what has been done in the villages. This is explained by the peculiar conditions in that villages are much more backward, retaining the culture of the former régime so far as poverty and bad roads are concerned.

Helping the rural population in every way and tying up villages with cities, are the problems of the day. In health work less cooperation is obtained from rural areas which, however, consent to have the State bear the cost. The People's Health Commissariat has worked out a series of measures aiming at the establishment of a net-work of rural hospitals. These measures will form the basis for a decree aiming at the improvement and extension of medical service for the rural population.

Only slow progress is possible in this direction, the rate of progress dependingexactly upon the restoration of economic power. But we have obtained a firm foot-hold in this field and will never give way because proper health work among the agricultural population in a country chiefly dependent upon agriculture is the guarantee of economic progress. Putting the health work among the proletariat and farmers on a social hygienic and social prophylactic basis, gives us the data from which we can lay down the general principles to be followed in the organization of health work in general.

VIII. Health Resorts.

Soviet Russia, extending as it does from the Baltic to the Pacific, has many and various mineral springs, salt lakes, radioactive marshes, climatic resorts, warm sea baths, and finally kumys resorts beyond the Volga steppes. Many of these are famous even outside Russia, such as the Mineral Springs of the Caucasus, the Essentuki Alkali Springs, the Believers' Alkali Wells at Schelesnowodsk and the Salines at Tambuakan. There are also the Salines at Odessa, the south-coast of Crimea, where is the All-Russian Convalescent Home in Crimea; the Black Sea coast at Kuban, with its climatic resorts open the year round at Sotschi, Gagry, and Suchum; the Darasum Carbonic Acid Springs in Transbaikalia; the mountain resorts in Turkestan, and so forth. These resorts were nationalized by the Soviet Government by decree of April 4, 1919, regardless of who the former owner was, and as a result the most valuable and famous among them are government resorts directly administered by the Commissariat of Public Health, there being 40 such resorts functioning at the present time. The rest of them are of only local importance and are administered by the

provincial or county authorities of the Commissariat. All the resorts have been placed by the Government at the disposal of the entire body of workers. Funds are furnished by the Government for building, sanitary, and administrative requirements. The resorts that were destroyed during the war have thus been rebuilt and put into condition, together with imperial and private castles, the country homes of former dignitaries and rich capitalists, and private sanatoria. All the therapeutic equipment in the form of baths, electric and mechanical apparatus, etc., has been renovated. A large amount of agricultural land has also been given to the resorts for their support. The industrial and insurance groups, the unions, the co-operatives, the trusts assist the Government in putting these resorts to use by organizing societies that provide free attendance for their members and for workers and employees in their shops. The medical department of the army has also co-operated with the resorts to provide similar facilities for the members of the Red Army.

Since the existence of the Soviet Government, 227,860 patients have been treated in the Central Government resorts, and this only during the summers. The table below gives details for the different years:

Patients in Russian Health Resorts, 1919-1923

Year	New Beds.	Patients.	Treatments: Mineral b.	Mud b.	Other	Total	% per patient.
1919	1,840	4,990	-	-	-	-	-
1920	21,024	48,435	519,542	257,600	255,803	1,201,370	21.2
1921	29,790	66,515	647,379	220,333	514,587	1,382,299	20.1
1922	14,367	28,167	230,913	48,688	273,796	603,287	23.7
1923	22,355	79,735	739,406	308,272	936,530	1,984,208	24.8

These figures give an indication of the great extent to which the attendance of workers, soldiers, and others at the resorts has increased since 1920. This increase coincided with the increased territory of the Soviet Government, when the mineral springs in the Caucasus, the Salines at Odessa and the Black Sea resorts became part of the republic. After that, when the White Army was driven out of the Crimea, great numbers of patients, most of them workers, were for the first time able to enjoy the southern climate, sea baths, grapes. As the table shows, the greatest increase in beds took place in 1921, and the whole period of increase was exactly during the years when conditions were at their worst in the whole

country, due to the two years of civil war, the epidemics, and the famine. 66,500 patients were treated and received not only treatment free, but lodging, food, and the trip both ways. The patients were taken to the resorts in the sanitary trains. The year after, 1922, only half as many patients could be received, due to the change to the New Economic Policy. However, the number increased again in 1923, in spite of the limited funds the Commissariat was able to allow the resorts, so that the 22,355 available beds served about 80,000 persons, although the new beds for the year were few in number.

The degree to which the Central Government resorts are used by the people, at the expense either of the Government itself or of the insurance or industrial societies, is indicated by the fact that 51% of all the patients in 1923 received treatment at government expense, 32.3% at society expense, and only 17.6% paid their own way.

The slogan of the health resort administrations is, "The health resorts for the active workers", and the Commissariat for Public Health makes every effort to keep these institutions at the high level, which this purpose requires. Model institutions, of which there were absolutely none, have been created to study systematically the natural therapeutic agents of the place and indicate their use. There is thus a Balneological Institute at Piatigorsk in the Caucasian mineral region, an Institute for Physiotherapeutics at Sebastopol, under Professor Setchenow, a Balneological Institute with a clinical department at Tomsk, a National Tuberculosis Institute at Jalta with 200 beds, and another at Kolosvar with 50 beds. These last two Institutions do clinical work not only in their own departments, but in children's sanatoria for bone and joint diseases, such as the Alupka Sanatorium with its 125 beds, the one in Geledschik with 100 beds, and also the one for all forms of tuberculosis at Utsch-Dere, near Sotschi, that has 75 beds. The work of these scientific model establishments, that are located right on the spot, is under the immediate direction of the central scientific health resort commission of the Commissariat of Public Health, that has attached to itself all worth while sources in this field. This commission runs a central resort clinic that studies the characteristics of the different localities and trains physicians for the work in a special two-year course. Polyclinics were opened last year in all the most

important resorts on account of the great need for better medical service at such places, and the most highly qualified professors and specialists were obtained for the purpose.

Physiotherapeutic institutes and institutes for light, electric, X-Ray, and other treatment, and diagnostic laboratories have for the same reason been added to the most important resorts. I shall not stop here to discuss the scientific research being done at these model institutions, except to point out the success achieved by the use of kumys (horse milk) in the treatment of tuberculosis, a method of treatment that has received too little attention, in spite of having been known a long time. Professors Gorwitz and Wlasovo, who are doing bacteriological work in the Orenburg Laboratory in the Khirgiz Republic, have found a special gas-forming agent of kumys, that they have called Bacillus Orenburgi, in the cream of this horse milk. Since then it has been possible to manufacture kumys, this irreplaceable agent against tuberculosis, artificially in that whole section of the country, instead of by the old primitive methods, thus guaranteeing its quality and cleanliness. The health resort officials have succeeded in carrying out two measures that were necessary on account of the lack of places in the resorts and on account of the poverty of the country-namely, to see to it that only those who are in the greatest need of such assistance in the entireU.S.S.R. are admitted to the resorts, and these only if they belong to the real working population. Health resort committees were appointed for the purpose in the different provinces and large cities, composed of two or three specialists, together with labor representatives. Large numbers of physicians whose districts lie entirely outside the resort localities have also been drawn into the work to assist resort specialists in the task of choosing the most urgent cases and send them to the place that best meet their requirements.

The Soviet Government has no commercial interest in the resorts, but is simply actuated by the desire to furnish the working population with these advantages that were formerly available only to the

rich. A compilation of the figures for the past few years shows that 83% of all those who were admitted to the resorts have been discharged either entirely cured or nearly so, feeling perfectly well and able to go back to their work. It also appears from the records that the best results, with 83% cure or great improvement, was achieved in the resorts giving mud bath and kumys treatments. These statistics must, however, remain fairly subjective and unscientific, dealing as they do with such objective facts as the determination of cure, improvement, or the contrary. The last congress of health resort physicians therefore decided that scientific means should be used to determine the physical and psychic conditions of the patients, and their ability to return to their regular occupations. A special commission is at present working on this question and will soon be able to publish its findings.

This reorganization of medical service in the Soviet Republic, based on the use of the health resorts by all the workers and on the improvement of methods of treatment, could not have taken place without the co-operation of all the workers, both in scientific and practical lines, in the resorts themselves. The results of this co-operation were revealed at the four congresses of health resort workers that have been held in 1921-1924, the last one on January 8-15, 1924. There were 240 delegates at this convention, consisting among others of 26 university men, 174 health resort physicians, and 30 other specialists. The congress listened to 102 reports and voted for 100 resolutions. A number of decisions were taken on question of organization and scientific methods, and many of the reports dealt with methods used in mud baths, physiotherapy, kumys treatment, etc. I shall not go into details as to the transactions of the congress, on account of lack of space, but wish to point out the enormous importance of the discussion of improvement in this field for the enormous territory of the U.S.S.R.

All the work done in organizing this field, with the slogan of "The health resorts for the workers", together with the active co-operation of physicians and union representatives, served as a basis for a widespread campaign of literary propaganda, and much place was given in the city and provincial press to discussions

on the advantages and disadvantages of the measures under consideration. The need was soon felt for a special professional periodical in this field, and the central office therefore began the publication of the journal "Health Resorts", in 1923. This journal contains sections on the scientific, administrative, and other aspects of the subject, as well as notes and bibliographical notices from Russia and foreign countries. Twelve numbers appeared in 1923, containing between 80 and 100 original articles. Five numbers have so far appeared in 1924, each one with a brief German summary of the original articles. Aside from this regular publication, there are irregular ones appearing from time to time that describe the subject. Among these is the reference book, "The Health Resorts of the U.S.S.R.", published in 1923, with 350 pages, and offering a really scientific description of the different localities. This year the Government Printing Office has published a number of separate pamphlets that are well prepared and richly illustrated, such as, "The Health Resorts of the Crimea", "Black Sea Resorts", "The Resorts of the Ukraine", "Guide to the Resorts Giving the Kumys Treatment". "What Are Health Resorts and How Are They Used?" by Professor Semashko and others. Individual resorts had already published previously "The Health Resorts of Siberia", and "The Health Resorts of the Far East". The scientific work done under the direction of the central bureau resulted in a number of publications of the separate institutions. Thus, the work of the Balneological Institute for the Caucasian Mineral Springs was described last year, while this year there appears the first volume of "The Kubano Black Sea Tuberculosis Institute". A large number of separate pamphlets on the whole subject have also appeared during the past few years, such as: "The Climate Treatment in Suchum", by Professor Mesernizky; "The Climate of Red Poljana", by the meteorologist Selenin; "The Warm Mineral Springs of Kuldursk", by Trofimovitch, etc. All these publications help to show the great interest of Soviet Russia in the immediate rehabilitation of the health resorts, as also the scientific research done in this line and its application to the welfare of the workers.

IX. MEDICAL EDUCATION AND GRADUATE INSTRUCTION.

Medical education as at present carried on is very different from what it was before the revolution. The most important points in which it differs are the large number of medical schools, the change in the composition of the student body, and the reforms in the teaching program in the way of closer adaptation to practical life and the present state of medical science. Until 1914 there existed in the territory of the present U.S.S.R. only fifteen medical schools, eight of them belonging to the State and seven to various private persons or institutions. Nine (?) state schools were to be found within the limits of the present R.S.F.S.R., and four public (?) and private ones. The relatively large number of private medical schools was due to the fact that admission to the government schools(Medical Faculties) was limited, in that only male persons having obtained the bachelor's degree were admitted; women were not admitted at all, Jews only up to three percent of the total, etc. The removal of these prohibitions after the Revolution naturally resulted in a great rush of young people eager for admission. The walls of the existing institutions could not contain them all, and medical schools grew up like weeds over the whole country. The lack of physicians also added to the increase in their number. On January 1, 1924, there were thirty medical faculties and institutes in the U.S.S.R 23 of them in the R.S.F.S.R.

The growth in the number of higher institutions of learning and the students attending them was mostly of an inchoate, unorganized nature, so that it had its dark as well as its bright side, although it proved to be positive good in the end. The overflow of students was so great, particularly in the lowest classes, that the practical departments, such as laboratories and dissecting rooms, could not keep up with it, while the lack of financial means, equipment and qualified teachers hampered the growth of the schools.

This had of course all to be changed in order to bring about an orderly development. The number and nature of the students was the first point of attack. The number of students had to be carefully limited to the capacity of the laboratories, clinics and institutes, and this raised the point of how to choose among the

hordes of students seeking admission. The social class of the student was chosen as the principle upon which to base admission, for in a State of peasants and workers the first place must be ceded, in institutions of learning as everywhere else, to the peasants and workers themselves.

The social composition of the student body has thus been greatly altered, for while it consisted mostly of the bourgeoisie before the Revolution, it is now formed almost entirely of the proletariat. The Government is doing everything in its power to make admission easier for the workers and their children to the institutions of higher education, that were previously closed to them. Funds for scholarships are furnished by the State, and during the current year 8671 medical scholarships have been distributed in the R.S.F.S.R. among 32,136 students. The professional societies and the unions also furnish large amounts for the same purpose. So-called Workers' Faculties exist in all large cities, to give their workers an opportunity to acquire a higher education, these faculties preparing workers who so desire for admission to the universities.

We hope that this system of admission will result in the formation of the kind of medical men a proletarian State needs, men who are part of the proletarian and peasant population, acquainted with its mode of life and its needs.

The whole net of medical institutions is being carefully studied. As mentioned above, the number of schools increased in response to the need for physicians. But the demobilization of most army physicians and the decline of the epidemics has decreased this need so much that we now find many unemployed physicians in the large cities. On the other hand, we are unable to increase the number of medical institutions in the villages as quickly as we would like, on account of the latters' material conditions and manner of life. We are thus forced to bring the number of new graduates and the country's requirements into harmony, and previous calculations have shown that it is possible to limit the number of medical faculties.

The plan in limiting the number of medical schools will be to distribute them as evenly as possible over the whole country. Special emphasis will be placed on keeping medical schools alive and helping them to develop in the

remote parts of the country inhabiyed by national minorities, where medical service was formerly entirely lacking.

A reform of medical education had been discussed in Russia even before the war. But the change that took place in the conception of the nature of medical service with the Revolution, preventive medicine taking the first place and causing the increased development of maternity and infant and child welfare centers and of control work of social and professional diseases, this change demanded new knowledge from young physicians, and also new methods of teaching.

The plan of studies approved in 1922 differs from the one of before the war chiefly by the increase in the number of subjects. New required courses were added for social hygiene, urology, ear, nose and throat diseases, infectious diseases, odontology, together with optional courses in X-Ray therapy, radiology, physiotherapeutics, etc. Although this change did bring with it some improvements, it did not solve the problem of the reorganization of medical studies, but rather accentuated the faults of the old plan that lay in the too large number of courses and the overworking of students.

A reform of medical education is at the present moment being worked out in co-operation with the State Scientific Board, the main lines of the new system being as follows:

The five year course will be retained, divided into fifteen three-month terms. The first two years are preparatory, and will be chiefly devoted to morphology and biology, while the remaining three years will deal with the specifically medical course. Lectures will be as few as possible, with a great increase in the use of the seminar method, laboratory work and other practical exercises. The amount of morphology required in the preparatory years will be decreased and biology proportionately increased. The purpose of instruction in the medical period will be to see to it that every single student does active work in the laboratories, clinics, etc., so as to obtain the greatest possible direct skill and experience for independent work.

During the last two years the courses given at the same hour of the day have been made as few as possible, and the number of students in each course

increased, in order to save the time wasted in going from one clinic to another and give the students a chance to become really familiar with the work done in any one place. In this way the departments that have to be covered during the last two years will not, as formerly have their courses spread out simultaneously, over the whole period but will offer them in a regular and logical series.

Lectures in clinical departments will have to be intimately related to the studies carried on in professional sociology and economics. The social and economic status of every patient must always be included at his clinical presentation. The study of social and experimental hygiene will be greatly enlarged. A proposal is at present under consideration to arrange courses in the medical faculty according to the group principle.

A decree of the Council of People's Commissars has made one summer term of practical work obligatory for University students, including medical students, in order to give them more training. In the Ukraine a whole year of practice is required for obtaining a medical license. The question of this required year has been discussed by the Council for the whole R.S.F.S.R., but the financial aspect has made it necessary to give this up for the present, as at least some of the students would have to be given scholarships to see them through this additional year.

University reform, involving as it does not only changes in programs and methods, but also in the spirit of the education given, cannot be rapidly accomplished. But we are convinced that our medical schools will improve from year to year, particularly as their material position becomes more secure.

However, the reform of medical schools alone will not entirely solve the problem of medical education. The training of specialists is not the field of the medical school, but on the other hand science is continually making such enormous strides that it is very hard for the practitioner in the provinces to keep up with its latest advances. This brings to the fore the question of graduate instruction, which is of very special importance in Russia, on account of the short-course physicians that were licensed during the war and the revolution (1915-1920), and for the sake of the physicians in remote districts which even Russian medical literature has difficulty in reaching, while foreign

literature practically never gets there at all.

The necessity for making physicians acquainted with the Soviet institutions such as nurseries, maternity centers, forest schools, tuberculosis and venereal dispensaries, the number of which is continually increasing, is what makes it of such importance to get them to take continuation courses.

The Council of Commissars, recognizing the tremendous importance of such action, took up as soon as possible the problem of organizing this instruction on a large scale. Courses were given in 1921 when canons were still roaring in the civil war and epidemics were mowing down the population, for all physicians who had graduated in 1919 and 1920. These men were transferred from the Front and the provinces to Moscow, where they worked for six months, to return after that to their former posts. Even earlier courses had been provided for training physicians in the new fields of Soviet medicine and as specialists. But no stable organization was given this work until the autumn of 1922, at which time regular credits were established for the support of 600 persons to be trained as specialists at government expense.

A more complete training is being given physicians at present in the following manner. The great majority of them take the course at the State Clinical Institutes for Graduate Instruction at Leningrad and Kazan. The former was founded about forty years ago, is well equipped, has large clinics, a fine big library, and is able to take care of a large number of students, one thousand having completed its course in 1923. There are twenty-six chairs of instruction and over one hundred and fifty courses given by docents. The Clinical Institute at Kazan is still young, but although founded in 1920 it has already a fine reputation among the physicians of the eastern R.S.F.S.R., and handles a few government scholarships that permit it to send physicians to other places. Physicians are required to return to practice at their former posts on completing a continuation course. They usually obtain a three months' leave of absence but they can get one for a longer period. Aside from these clinical institutes, there exist a large number of government institutions for training physicians in the specialties. Physicians obtain leaves of absence to attend them either for special training or scientific work. Such institutes at Leningrad are the Institutes of Experimental Medicine, of Radiology, of Physiotherapeutics, of Gynecology and

Obstetrics; at Moscow, the Institutes of Biological Physics, of Biological Chemistry, of Physiology of Nutrition, of Experimental Biology, of Tropical Diseases, of Microbiology, of Sanitary Control, of Sanitation and Hygiene, of Tuberculosis and Venereal Diseases, of Maternity and Infant Welfare, of Physical Culture, of Medical Pediatrics, of Physiotherapeutics and Orthopedics, etc. The Bacteriological Institute at Rostov is particularly interested in malaria, and the Microbiological Institute at Saratov is the center for work on the plague. Most of these institutes dispose of government scholarships for provincial physicians who receive leave of absence to attend them.

The Government also organized, in addition to these regular courses, periodic ones such as courses for sanitary physicians, for medico-legal experts, etc. There is no doubt whatever that this kind of work will expand more and more during the next few years.

X. RESEARCH WORK IN THE SCIENTIFIC INSTITUTIONS.

The Soviet Government, aware of the great importance of medical science as the basis of all public health regulations, has paid particular attention to institutions of medical research. The Commissariat of Public Health has been able to support the Institute of Experimental Medicine in Leningrad, that was already in existence during the old régime, together with a whole group of bacteriological and clinical institutes. It has also founded a large number of new scientific institutes covering an extensive field, has always kept them in mind even in the worst periods, and has devoted more and more funds to them as the general financial level improved.

The State Pasteur Institute of Public Health and the Institute of Biological Physics at Moscow are the most important of the Soviet Government's creations in this field. The aim of the Commissariat of Public Health in founding them was to create a scientific center in which various public health problems could be solved and general lines of action for public health preservation laid down, aside from the strictly scientific research work to be done. The intensive work done along such lines in the various institutes of the Commissariat is evident in the publications that have appeared in Russian and foreign journals and in separate collections.

The Institute of Experimental Medicine (Professor A.A. Vladimirov, director) is the oldest of these insti-

tutions, and at once calls to mind the name of Professor J.P. Pavlov, probably the most famous of living physiologists. This great scientist is carrying on his work along the same lines as for the past twenty years, making an absolutely objective study by experimental methods of the higher nerve centers and their activity. This Russian scientist has formulated a doctrine on the basis of his own experiments and observations that promises to alter all previous conceptions in this field. The results of this long period of activity have been brilliantly recorded in Pavlov's "The Results of Twenty Years' Objective Study of the Higher Nerve Activities of Animals (Quantities), Conditioned Reflexes. A Collection of Articles, Reports and Speeches". Intensive scientific research is also done in other departments of the Institute, such as the department of General Microbiology, under the direction of the well-known bacteriologist, W.L. Omielansky. His researches on the nitrogen fixation and the fermentation of cell-tissue are well-known, and a number of his textbooks and handbooks are widely distributed. "The Foundations of Microbiology" having been translated into several languages and published in many editions. Another big scientific achievement of the Institute of Experimental Medicine is the method of vasostomy worked out by E.S. London, consisting of the formation of an artificial passage into the deep blood vessels, particularly those of the abdominal cavity. Other pieces of work worthy of notice are those on arteriosclerosis by N.N. Anitchkov, on the epidemiology of the plague and other epidemic diseases by D.K. Zabolotny, and on nutrition by B.J. Slovtzov.

The Scientific Institute of Public Health in Moscow, consisting of eight different individual institutes, is the place for a great deal of scientific research, all done with the idea in mind that it must be not only of theoretical value but closely related to the practical needs of the times. The object of this institute is to serve the needs of preventive medicine, and the problems with which its workers are occupied are of interest not only to medical men but also to the general public.

The State Public Health Institute (Professor L.A. Tarasievitch) is closely connected with other

scientific institutes and establishments both inside and outside Russia. The Serum and Vaccine Control Institute, one of its eight component parts, carries on not only the work its name implies, but also goes into a great deal of original research in this line. Of particular interest is the work done so far in local and non-specific immunity and on anaphylaxis and colloid reactions.

The Microbiological Institute (Professor V.A. Barykin) has to offer the work done by Barykin and N.J. Krich on the nature and culture of the typhus bacillus and on the nature of the antigen and the virus in smallpox. One characteristic of the kind of work done in this institute is that immunity manifestations are studied from the absolute physical-chemical point of view.

The work of the Tropical Institute (Professor I. Marzinovsky) must necessarily deal largely with malaria in a country in which there are millions of malaria cases per year. Methods of treatment and prevention are particularly dealt with, and the practical side emphasized. The Institute is connected with a whole network of malaria stations, and the problems arising in practice are solved both by laboratory work and by expeditions. This Institute also carries on studies dealing with other protozoal diseases and with chemotherapy.

In the Sanitary Hygiene Institute (Professor Djatropnov) the kind of work is determined in advance by its name. Studies are made dealing with professional hygiene, conditions of labor, the sanitary statistics of epidemics; thus, interesting material has been collected on the periodicity and seasonal variation of the epidemics.

The Tuberculosis Institute (Professor V.A. Vorobjev) founded at a later date, is based on broadly sociological grounds. Its main purpose is to investigate the condition of the tuberculous patient from the point of view of constitutional idiosyncrasies and the nature of the ground upon which tuberculosis has developed. The patient is also studied in relation to his occupation, living conditions, housing, etc.

Of special interest at the Institute of Nutritional Physiology (Professor M.N. Shaternikov) is

the work on the results of one-sided nutrition, which pushes aside the so-called energetic doctrine of nutrition and emphasises the importance of vitamines by proving that the addition of vitamines to a one-sided diet immediately increased the assimilation of the basic food stuffs.

The work of the Biochemical Institute (Professor A.N. Bach) is of great importance, particularly in the field of enzymology. Professor Bach, the greatest supporter of the theory of enzymology, has recently worked out an absolutely original method of determining the quantity of ferments, such as catalases, peroxydases, lipases and proteases, in the smallest possible amounts of blood. These researches, together with others that open new paths into the subject of ferments, have aroused great interest and led to the founding of a new scientific school. Another activity of the Institute worth mentioning is Bach's discovery that the specificity of the antibody is determined not by the ferment, but by the accompanying bodies that are supposed to serve as the latter's carriers.

The name of the Institute of Experimental Biology (Professor N.K. Kolsov) would imply that it was not in any way associated with public health questions, but it has nevertheless succeeded in invading the field of public health and doing much and important work in it. Some particularly interesting pieces of research of this kind have dealt with inheritance in general, with the inheritance of constitution in man in particular, and with eugenics. The problem of the relations between the internal secretions and the doctrine of rejuvenation also has a large place in the work of this institute. Reports of the institute's activities have already been published.

The ionic theory of activation occupies the first place in the work of the Institute of Biological Physics (Professor P.P. Lazarev), and consists principally in the belief that all processes of activation are based on an alteration in the ionic content of the tissues, which then change from a resting to an active state. The Institute has formulated a theory of nerve and muscle processes, as well as a general definition of

the laws of activation (the Weber-Fechner law generalized). The subject of brain activity from this standpoint of chemical-physical construction, and the subject of the brain centers, their work and their fatigue are problems with which the Institute is at present occupied? One of the Institute's main findings in this field is the unfatigability of the brain centers.

The People's Commissariat of Public Health has under its direction a large number of scientific-practical institutions that do mostly practical work, with some research, quite apart from the Institutes of pure science. Some of the former existed during the old regime, but they are mostly of recent date.

Among the later are the State Institute of Psychiatry and Orthopedics (Professor S.V. Vermel) founded a year ago, that has already turned out a great deal of research, medical and pedagogic work; the State Institute of Social Hygiene (Professor A.V. Molkov), with which are connected a Museum, a permanent popular educational exhibit, and shops for the manufacture of objects for visual instruction; the State Scientific Institute for Maternal and Infant Welfare (W.C. Speransky), that seeks the scientific solution of the physiological and pathological problems of maternity and infancy, and also includes the related question of maternal and infant mortality. Many specialists receive their training in this Institute. The State Venereological Institute (Professor Efron) combining purely pedagogical with therapeutic and scientific functions, consists actually of two institutes, the clinical and the experimental, the latter devoted to pure science in the form of experimental studies in venereal disease.

The State Dental Institute (Doctor Jevdomikov) does scientific and practical work in dentistry, and strives to make dental service available to the masses. The Psychoneurological Institute (Professor Netchadjev), the Medical-Pedological Institute (Professor Gurevitch), and the State Vaccine Institute (Doctor Morosov), that not only prepares stock vaccine but carries on studies on smallpox immunity and the nature of the virus, all are located in or near Moscow.

The following Institutes are in Leningrad: The Roentgen and Radium Institute (Professor Nemenov), the work of which is already recognized abroad; the Obstetric and

Gynecological Institute (Professor Ott); and the Clinical Institute for Graduate Medical Instruction (Professor S.A. Brustein), that not only teaches but does a large amount of scientific work. Another Institute similar to the last-named was opened in Kasan not long ago. It is called the "Lenin Institute", and is under the direction of Professor P.A. Luria.

The Provincial Institute of South-Eastern Russia for Microbiology and Epidemiology (Doctor Nikanorov), at Saratov, is the most famous of the practical-scientific institutions in the provinces. One of its main objects is the study of the plague and its control by means of expeditions and the training of specialists. Finally, there is a whole series of bacteriological Institutes that do all kinds of practical work, such as preparing vaccines and sera, making diagnoses, etc., and some scientific research as well, but it is impossible to go into details as to the activity of them all. The reports on the subject are to be found in numerous journals and special publications that have appeared at home and abroad, and give a clear picture of the work done in these different places.

This brief account of the scientific and practical institutions of Soviet Russia would be incomplete without mention of the Scientific Medical Council. This Council, in its capacity as advisory organ to the People's Commissariat of Public Health, is closely connected with the scientific medical life of the country. Most of the above institutions, particularly the new ones, have been created with the co-operation of the Council, which worked out their regulation. The Scientific Medical Council advises the Commissariat in everything relating to public health regulations throughout the U.S.S.R. that is referred to itself or to the Council of Commissars. The Medical Council consists of twenty-five members, appointed annually by the Council (of Commissars?) from the ranks of scientific medical men, with the right to reelection. The permanent active organ of the Medical Council is the Praesidium, consisting of the Chairman (L.A. Tarasevitch, Professor of Bacteriology at the Second University of Moscow), the vice-chairman (P.N. Diatroptov, Professor of Hygiene at the same University), and the scientific secretary (V.V. Ivanov, Professor of Skin and Venereal Diseases at the First Moscow University).

During the past six years the Scientific Medical Council has expressed itself on a large number of medical and sanitary questions affecting the whole country, among others the creation and organization of the medical and research Institutes, questions of sanitation in connection with the epidemics, questions dealing with the control of foodstuffs, vaccines, drugs, therapeutic sera, etc., as well as with their domestic manufacture or importation, questions of legal medical importance, and so forth.

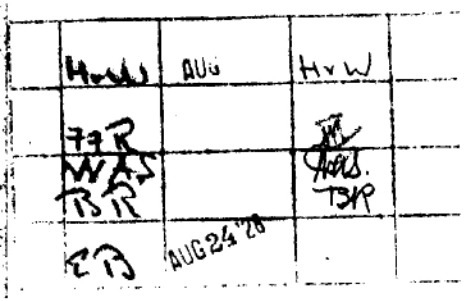
In conclusion, there is no doubt that scientific medical activity, which did not cease even during the worst years of civil war, is at present becoming both more intensive and more extensive, and there is every reason to believe that this development will continue to keep step with the general improvement in economic conditions.

-----oOo-----

Alan Gregg's Diary during trip to

Russia, December

1927.



Saturday Dec. 3rd.- Russia.-

All day travelling through Lithuania and Latvia. Much improvement in the appearance of things over three years ago. Not much barbed wire and no more dynamited bridges. Was alone in the wagon-lit after Kovno. Lots of snow. Latvia seems remarkably closely settled. Almost never out of sight of two or three farms. Left Riga about midnight on a good Russian-Latvian through-sleeper to Moscow.

Sunday Dec. 4th.- Russia.-

Border ceremonies few and easy. People look as though everybody had the same income, and that was very small. Rolling Stock on the railroad in good condition. Everything looks proletarian without doubt. Food cheap in the country (more than I could eat for one rouble 30 kopeks), which is approximately 65 cents)

Monday December 5th.- Moscow.-

Arrived in Moscow at 9.30. Much u finished building in suburbs as we come in. Hotel Savoy filled, and so went to an all-Russian hotel where no other language was spoken. Prices expensive, and very few comforts. Went to Narkomsdrav and saw Cheftel, who was very kind. He is the chief of the Bureau of Foreign Relations in Medicine for the Narkomsdrav. He was a pupil of V. Ascoli, at Rome, and Trambusti in Genoa, so we got along in Italian. Semasko busy with the party meetings of this week, but will be able to see AG sometime during the week. Cheftel expects to go to America in January. Is interested in X-Ray equipment and apparently in contact with the Victor Corporation. Said he had waited for AG to come to Russia. I explained that the delay seemed unavoidable, although I had been ready to leave two weeks earlier. I explained that I was principally interested in Medical Education, and that the D.M.S. had someone free to come at this time to Russia, but that the I.H.D. at this time had no one to make a visit. Cheftel said that the visit was principally important for general impressions and contacts, and that no requests were likely to be made. He preferred me to go my own pace, but was keen to help as much as possible before he left for America. I said that I had heard that it was not wise to ask to see anyone in Russia, but merely to note what one was shown. He said that on the contrary he wished me to feel free to go anywhere and ask any questions I wished. I had the impression that he is a little too affable to be entirely reliable, and in the way he threw out hints, I gathered he was willing to make his visit to America advantageous to himself as well as to the party.

Cheftel.-

The air in Moscow is filled with the smell of burning things that ought not to be burned. The floors are everywhere dirty and the buildings deteriorating. People quarrel easily and violently, and there is a general air of depression which one does not feel so sharply the first day. One dilapidated taxi at the station and altho' the station is not the principal one of Moscow, one might expect more in a capital of 140 million people. Remember Mr. Fine, the former instructor of English, whose behaviour is now principally tics, fidgets and forgetfulness. Remember the Valinki huge felt overshoes, the cheap clothes in the windows. The windows tightly closed with putty. Wash-bowls with no plug, etc. etc. Cheftel, in speaking of the very high infant mortality-rate in the tzarist time, together with the general misgovernment, referred to the process of revolution in politely evasive terms:" and this was an explanation of why the people decided to..... do what they did". Item of

December 5th, 1927.- Moscow - contd.

Russian proletarian's toilet on entering house: take out pocket-comb and comb your hair for two minutes.

Tuesday 6th.

Sheftel. Long talk with Sheftel, who gives me idea of general organization covered elsewhere. One gets the impression very early that Government Health Service and Medical Schools are permeated with Preventive Medicine to a quite unusual degree. Sheftel asks me if publication of a special brochure in America of information on Soviet organizations would be wise. I said I thought that articles in established journals would be a better method. Sheftel could then have a large number of reprints, and there would be no suspicion of paid propaganda. It is a great mistake to assume regarding Russia, as we used to assume about Germany during the war, that the Government was all-wise, all-seeing, all-mighty, or in fact all anything. For example, the Government's theory and belief is that doctors should do no private work, and for the miserable petty offender, there are difficulties and penalties, but the professors and best doctors are known to be practising, and indeed would be consulted privately in all probability by people whose theory it was that they should do no private practise. Remember the position of the all-powerful government of the U.S. on the prohibition difficulties within its borders. The Bolsheviste are in a similar position in many ways. A system of fellowships is already in force for Russian doctors, the State, the province, and the local institute contributing. 500 roubles is the maximum sum of these bourses. About 80 were given in 1926, 120 in 1925. They want the candidates to stay in one place rather than coast around. The present system consists in giving as much money as they can to a fellow, pushing him off usually to Germany, and hoping that he will make his money last as long as possible. It seldom carries more than for three months. The expenses are about 50 roubles for a passport, 100 roubles ticket to and from Germany, 300 roubles for food and lodging, and 50 roubles extras. This is the maximum many, I gather, are only 300 roubles. They want fellowships desperately, and from their anxiety I gather would do anything to maintain these fellowships in good standing. Met Bronner, who is the chief of Medical Education under the Narkomzdrav. Long and interesting talk with him. Object of Medical Education in Russia at the present time is to turn out village or district doctors, and the curriculum is saturated with hygiene and preventive medicine. There are four chairs in hygiene in the faculties of Leningrad and Moscow, as follows: General Hygiene, Social Hygiene, Occupational Hygiene, and School Hygiene. In the smaller universities there are only

Bronner.

Tuesday December 6th 19 7 - Moscow.- contd.-

two chairs of Hygiene, general and social. Medical schools have found it necessary to throw out 50% of the students who began in the years 18, 19, and 20, because they had no background and could learn so little medicine. About 50% of the students receive help from the State. Another 40% pay nothing for their tuition, and receive no stipends. About 10% only pay anything for their Medical Education. It is found that graduates of provincial schools go to the country more readily than those studying Moscow. I am impressed by the enormous size of Russia. Europe is tiny and in another world in many ways. These people talk in a casual way of the conditions in a Medical School 5000 miles away, which incidentally they know, since Bronner has visited every Medical School in Russia, which is more than I could say of anyone in Italy or France. I am beginning to weary of the face of Lenin, and Red this and Red that. Being a member of the proletariat is by no means an easy physical existence since there are not enough comforts to go around, but they at least are filled with moral enthusiasm and satisfaction, and have the thrill of being at the center of the stage. Mentally, they remind me more of methodist missionaries than any group that I had ever met before. In point of fact, in Russia they are a privileged class in the education of their children and in many other ways, but all talk of their living on the fat of the land is unconvincing to me. This is an extraordinary country, in that I have never seen education likely to play a more decisive part in the future of a nation than here where, as in so many other things, the Soviet Government starts from a base line that is zero.

Tuesday, December 6th (contd.) - Moscow.-

..... There is, however, a big difference in point of view regarding science and education in science between the Government which is influenced considerably by industry, and the peasant, who is hardly at all interested in science or its applications. Scientific institutions will be aided by the Government much more willingly than they would be aided by the peasants. Moscow seems to suffer from a surfeit of ideas. They talk always of the periphery, which means Russia outside of Moscow. From my talk with Bronmor, I can see that they are most interested in the hope of increasing their foreign fellowships, and would do nothing to imperil the success of any arrangement we might make with them. I can also realise that a greater separation exists between the professional politicians and the medical school and public health authorities than I had previously thought was the case. Many of the men in authority in both of these services are more realists than the politicians, and indeed several of those prominent positions are as bitterly resentful as could be imagined, although they do not risk anything by talking about it.

Wednesday Dec. 7th.- Moscow.-

Moved to the Savoy Hotel before breakfast, where there is warm water, food without cockroaches, and cleanliness. Passport returned without visa and left it again with the Savoy authorities. Told by hotel people to get a letter from the Narkomsdrav, requesting permission to leave Russia, and indicating the date. This is a good point in case of other people who wish to visit Russia: get the arrangements to leave started as soon as you arrive. Some delay in arranging to see people today, so arrangement for a translator to work on reprints Bronmer had given me. Translator never turned up, though I waited the traditional two hours. Saw Bronmer in the afternoon. He says that some medical institutions are important here which are not organized however as part of the Faculties, but which take students or young assistants. Will arrange for me to see his institute, which is a case of this kind. Went to the Ballet in the evening. Audience quite as picturesque as the players, but neither as clean nor as beautiful. A good example of the thesis that art is an escape from an otherwise unbearable existence. Counted three white collars in the entire audience. Audience was well behaved, punctual, and extremely attentive. Extraordinary faces, and great racial variety, but depressing in its uniform poverty, and more particularly in the air of suppression and anxiety that had almost lapsed into apathy and fatalism. Half of the programme was devoted to a representation

Bronmer.-

Wednesday, Dec. 7th (contd.) - Moscow.-

of the revolution. Applause for the violent scenes was scant and scattered. I get the impression that the attitude of most people was "yes, the revolution has been a fine thing in theory, but in practice it is not so very gay, and in any case we can't do anything about it". My interpreter had to get permission to be my guest at the Opera from Bronmer, that is to say, being seen in public with a stranger might have made things difficult for him. Gumm's goloshes which I am wearing, if they do not succeed to "épater" the bourgeois, certainly astound the proletarian.

Thursday, Dec. 8th. - Moscow.-

Bronmer.- Vyshinsky.- Piotr Karusin.- Bronmer called and took me to the first University, where I met the Rector Vyshinsky and three or four professors. Went to the anatomical Institute of Professor Piotr Karusin. Present building to be pulled down. Visited the new building built in the past two years, and almost finished, which cost one million rubles. 62 large rooms. Anatomy has been clipped of much of its importance to make room for hygiene.

Then out to the first University clinics, which were built by private subscription and are altogether in a gorodok, or little city. The first University have relatively few changes in the professorate during the revolution. The second University before the war was for women only. Now, both Universities accept women, and the percentage of girls among the medical students varies between 60 and 70%. I have the impression that many girls who with us would be going into nursing take a medical degree in Russia.

Nicolaieff.- Then to Pharmacology of the First University. Professor Nicolaieff, papil of Schmiedeberg. His salary 250 rubles, or 125 dollars a month. Salaries of professors in clinical branches 90 dollars a month. Assistants, 42, and aspirants, 40 dollars a month. Aspirants are a group of younger assistants chosen with a view to becoming teachers or investigators later. Nicolaieff's laboratory gets 65 dollars a month for expenses, but only about 5 of this can be spend abroad. This is because the Government strictly limits the amount of rubles to be spent outside of Russia. Nicolaieff says there is great improvement in every way over conditions three years ago, when it would have been a mistake to visit Russia and form an opinion on impressions of conditions. Then visited pathological anatomy, details elsewhere. Bronmer told my interpreter Blumenthal that it would be all right for him to act as guide and interpreter.

Blumenthal.-

Semashko.- Interview with Semashko. Told him of two Divisions of Rockefeller Foundation. Said that U.S.S.R. was especially interested in theoretical branches of medicine including hygiene. I said that

Thursday, December 8th (contd.) - Moscow.-

Cheftel had already given me a general idea of Narkomsdrav's work and that now I would like to see some of the Institute's clinics and some of the Institutes outside of the University. I asked him if there was anything comparable to County Health organisation. His rural physicians are not private practitioners, but are County Health officers with direction of feldchers and midwives. He seemed rather vague about nurses and what training they have. I don't believe he understands our term very fully. I said that, in view of the fact that his time was much taken and perhaps I would not have the opportunity of a second interview, that I would ask a question which would otherwise be premature, viz. what possibility of co-operation with the Rockefeller Foundation could he see. His reply was: 1) diagnostic Institutes in Public Health work; 2) training of nurses, and 3) general aid to post-graduate instruction. I told him what my plans were for the visit, and thanked him for the opportunity to make even this brief visit in Russia. My impression is that he is a competent and sincere man who has realized that his effectiveness and permanence depend on his devoting a good deal of time to political matters, and getting down his immediate technical work to a minimum. Was reminded of the story of the young man who met the devil. The devil turned out to be rather a kindly and sympathetic gentleman, with whom it was very easy to converse. When asked how it happened that he did not have a long red tail, horns, and a smell of sulphur about him, the kindly old gentleman replied with a wan smile: "I have often been described, but the pen has always been in the hand of my enemies."

Martinov.- Saw second surgical clinic of the First University, Professor Martinov. First University has regular University clinics. Second University utilizes municipal hospitals. Clinic rather well-run, except in point of view of cleanliness of floors. Student teaching much as in America. Interns are called ordinators, and are similar to our house officers, except that they do not live in the hospitals, and spend a little less or time in this capacity. After two or three years as ordinators, a few assistants are chosen among them, and assistants cannot stay for more than ten years. Saw small students' lunch-room in one of the big coridors. Cup of tea costs 3 kopeks (i.e. one cent and a half) with ten kopeks for slice of bread. Students get 25 rubles a month when they are on Government pay-roll, and for this are obliged to take places as County doctors after their student days are over. Medical clinic of Professor Pletniev. Excellent routine and investigative laboratories, though young assistant says that the tendency in general is "back to bedside from the laboratory". Electro-cardiegraph and Haldane's apparatus have just been bought. Good impression generally.

Professor Pletniev.-

Friday, Dec. 9th.- Moscow.-

Went with my guide, Dr. Blumenthal, to Second University, which

Friday December 9th (contd.) - Moscow.-

was founded in 1906 for women, and visited several laboratories and clinics. About 3/4 to 9/10 of every class I saw was girls. Then to Institute of experimental biology, whose chief is Prof. Zavadovsky. Mr. Zavadovsky, good worker on genetics in fishes' and factors affecting color in axolotl. Excellent little Institute. 25 rubles a month is the laboratory budget. 3 assistants and two aspirants. Teaching in the first three semesters of the Medical school. Class divided into ten sections, each having two hours a week. Then to the Physiology Department, presided over by Lina Stern, formerly of Geneva. 5 speeds: Russian, Italian, German, French, and English. Then to a large Institute of microbiology, well-equipped, but rather poorly-housed; details elsewhere. Then to medical clinic of the Second University. Best histories I have seen in Europe. Surgery in the same hospital under Professor Lewit, who is called here from Irkutsk, 8000 kilometers away. My guide Blumenthal says that qualifications for becoming docent have considerably changed. Now it is not the public defense of the thesis, but the published work and past record which counts. There is practically no private practice in the country, nor was there before the war, when this position was considered a great sacrifice. This has an effect on Medical Schools, since young men are willing to stay on scientific work at a sacrifice. My passport not yet back. As usual, promised for to-morrow.

Saturday December 10th.- Moscow.-

Went with Blumenthal to Bronner's Institute, for combating venereal disease. Budget, 1150,000 a year, one-half of which goes to salary of personnel of about 180, sixty-six of whom are staff doctors. It was begun in December 1921. The out-patient Department has about 200,000 visits a year, and beds in the building provide accommodation for about 23,000 sick days, per year. The social side and scientific experimentation are much emphasized. This Institute has 159 sub-stations over Russia, and 1 49 mobile diagnostic units making venereal surveys over the U.S.S.R. There are accommodations in the building for about 50 post-graduates who live in for a four months course which is given twice a year, and are paid 60 rubles a month, together with their home salaries, which are continued for their families. Laboratories for scientific research are extensive and excellently maintained. This is the first time that I have ever seen simple explanatory lectures being given in the waiting-room of an out-patient Department. An excellent idea, it seems to me. There is a dental Department with routine treatment for all patients

Saturday December 10th. (contd.) Moscow.-

who will undergo mercury treatment. On the preventive side of the work, there is a home maintained for unemployed women in the infective stage of the disease. Here these women are given work and paid a good monthly wage, undergoing treatment at the same time. 550 women are accommodated, and they prefer entry here rather than continue on the streets. Treatment is given at this home, and when discharged, the women are given first preference at the employment bureaus. A good example of the considerable activity in the social side of medicine which is encouraged and supported by the present Government.

Prof. Bach.- Then to Institute of bio-chemistry under Bach. A model institution, first-rate impression. Bach as an old revolutionist enjoys exceptional support. He talks simply and without any evidence of fear. He said that institutions such as his needed no assistance, but that equipment for clinics and institutes of the University was most necessary and important, but the ideal form of aid was fellowships, which should be for at least one year. Positions could certainly be guaranteed to the returning fellows. Then to Institute of experimental

Prof. Koltsov.- biology of Professor Koltsov. Good equipment, excellent library, good morale. Main interests genetics and physical chemistry, as applied to biology. Took dinner with Madame Koltsov, the first assistant Lebedieff, and my guide, who told me sotto voce that here was a place where one could talk. I asked a few questions, and got one or two interesting answers. Although Madame K. had lost her fortune from the Revolution, she would not care to go back to tsarist organization of Russian society. Conditions are very hard, but they are improving. The most encouraging thing is the enormous release of spiritual and moral energy as applied to scientific work. Emigrés are really no great loss. They don't know what goes on in Russia. Nobody will ever be able to estimate the losses of the Revolution and the famine. Five million are supposed to have died in the Volga alone, and cannibalism took place in many parts of Russia. The great question now is: what are the young people going to be like? They have no idea of how good life might be, and in the drab uniformity that exists everywhere today in point of ideas and material possessions the younger people see no contrasts. Will it be possible then for the party to maintain indefinitely the communist fervor at the present pitch? Communism is more nearly a religion, and is maintained by the methods of catechism and heretic hunting which are not so foreign to our own history as we would like to think. Madame asks as a special favor that if AG has any rubles to buy she would be delighted to secure dollars, since it was so hard to obtain foreign currency which could be used for purchase of instruments, books, or, in rare cases, travel. Dinner enlivened

Saturday December 10th (contd).- Moscow.-

by two husky pot tom cats who conducted a running fight through the three rooms in which the K's live.

Sunday December 11th.- Moscow.-

Lazareff.- Visited physics laboratory of Lazareff. Well-built, large institute. Better equipped that anything I have ever seen in France, although the "Matin" reports Lazareff has reduced to misery and hunger with no instruments and with salaries which amount to nothing. So process of lying goes on. Lazareff has some very interesting work on an experimental model of the Gulf Stream. Other interesting work on magnetic deflexion. Another department was working on a mechanical imitation of the human nerve, and another on viscosity of glass. Lazareff rather magnified, I thought, his close relations with J. Loeb. Lazareff sharp but very interesting, and apparently a considerable protector of scientific men during the worst period.

Prof. Stern.- Went to Sunday dinner with Professor Stern. She is much depressed by the fact that her assistants have positions elsewhere as assistant, and their time is pulverised into a series of trivial efforts, none of which are worth while. Thinks that opportunity to help her students however is unlimited, and is amazed by their eagerness and receptivity. Told me that Pavlov was given large credits, indeed practically everything he wanted, because it was believed that his work would obviate the necessity for God in the minds of intelligent people, since life could be entirely interpreted in terms of reflexes. Hence the party was anxious to get on with the substantiation of this view. Pavlov, it might be said, draws exactly the opposite conclusion from his work, and hence his anxious to get on with it.

Walter Duranty.- Dinner with Walter Duranty. Most interesting evening. Duranty very well informed. D. considers that Lenin was really a marvelous person, at least his influence on Russians was almost magical, and his sense of real values absolutely unique among the communists. Russia's interest in China may be explained by the theory of Rosa Luxemburg. It was briefly that the reason why the capitalist countries at the end of the war had not had a class warfare was that they possessed colonial territory and "colonial slave labor" on which they could rest for a moment and give to their own working classes a breathing space. Germany being deprived of her colonies would have gone under had it not been for the support of her previous enemies who feared communism in Germany even more than they hated to help their enemy. This is a very busy week for the party. Lenin knew that Stalin would mean trouble. Situations change so rapidly that news one month is completely wrong two months later. British have inflicted great harm on Russia through refusal of credit, and now through virtual cessation of trade relations. It is

Sunday, December 11th 1927 (contd).- Moscow.-

possible that American relations with Russia would have some severe implications for the British policy. For example, Farquhar is said to be arranging a forty million dollar credit for Vertical Steel Trust. Remember story of Kolontai and the gallant sailor sentenced by Lenin to five years fidelity.

Lenin was carefully embalmed partly because of peasants' belief that great men do not change after death. Stalin needs a Lenin tradition. Remember Duranty's explanation of the need of morphia, as a preliminary to interviews with the Chinese Nedspears.

Monday December 12th. - Moscow.-

Prof. Molkov.- Institute of Social Hygiene and Professor Molkov. He apparently believes that hygiene is best learnt through papier mâché models. Orientation in general antiquated and sterile. If surgery was practised on this method, you would present to the patient with empyema a papier mâché model of the chest wall, and two charts of the number of operations carried out on patients for this same disease between 1850 and 1910, but there would be no operation.

Then to Department of General Hygiene in the First University. A good impression.

Then to first surgical clinic of the First University.

N.N. Burdenko.- Professor N.N. Burdenko. B. feels that higher education of the future is a matter of great concern and that fellowships are of highest importance. Scientific work, i.e. better type of investigative work, is at present poor and interrupted. Younger men can't continue for economic reasons in this work: there is too much preoccupation among the students with earning part of their living and with self-Government, also the clinical courses

Semashko.- are being robbed by time devoted to hygiene.) Visit to Semashko's Institute for industrial diseases. My guide told me confidentially that it is not the best in Moscow, which they did not care to show me lest it should create too favorable an impression. Dinner with Blumenthal, my guide. Up through an appallingly dirty hall-way into a three-room apartment shared by Blumenthal, his wife and his brother. His brother is a lawyer. Things were much better in 1925. Less oppression and less fear. Doctors could charge for private patients with less concern and more likely to be paid. Mrs. B. a physician who, during the famine, had three jobs in separate clinics and walked in the snow 30 kilometers to earn a very precarious living. She asked me what I thought of the Sacco-Vanzetti affair. I said I thought that an advantage of it was that it showed that judicial procedure in one country might not always remain entirely a family affair, in the opinion

Monday December 12th (contd).- Moscow.-

of the world at large. She replied with rather a wry smile that justice in the U.S.S.R. was not at present open for world inspection. Blumenthal said there were no abandoned children in Moscow since they had been cleared out entirely for the Decennial Jubilee. Blumenthal said that he honestly thought the only thing that could be done with these children was a machine-gun. In spite of this attitude I find him level-headed, very kindly and satisfactory person.

Tuesday December 13th.- Moscow.-

Cheftel.- The permission to stay in Russia has finally come back from the authorities. Saw Cheftel and Bronner at the Narkomsdrav. I had asked Bronner whether many of the Professors were relatively recently appointed. He gave me a paper showing ages of all professors. The average is 53 1/2. This hardly answered the question as to whether any of the professors dated back to the elder régime, but was useful information on another score, since it is clear that many men within the next ten years will be dropping out of their positions. Cheftel said that he wished to explain from a Russian point of view ideal help, viz. diagnostic Institutes, fellowships, and medical literature. I started to say that we never worked rapidly in extending into a new field. He interrupted to say that never for a moment should I suppose that he was asking for anything . He was merely naming what was desirable. I said that perhaps medical literature might be given to teaching institutes, that bourses were doubtful and a question to be decided later, and that Institutes were out of the question. We were talking Italian, and when we said good bye I said "Adio". He remonstrated, saying "Don't say that", so I said "A Lénine", but it did not seem to go very well. He is going to America in January, and it would probably be very useful for him to see something of the social work there.

Sevetsov.- Interview at hotel with I.E.B. fellowship candidate named Sevetsov. Then went to picture gallery. Invaluable aid to my other impressions here. Paintings in three general classes: landscapes which were beautifully fresh, informal and vigorous; small portraits in which the subjects were far more interesting than the artist's treatment; and lastly, scenes of mental and physical anguish: prisoners going to Siberia; prison cells; blind men trying to recognise their children by touch; homicide; matricide; parricide; all "sides" of Tartar life excepting the sunny one. And then, on a more liberal scale, the ordinary mass scenes of battle, murder, rapine and sudden death. One wonderful room

Tuesday December 13th (contd.) Moscow.- 1927.

of Veresch aguine with costumes more gorgeous than any I have ever seen. As we left the Museum, we saw four of the religious sect known as Skoptsies. Later passed some peasant women rinsing the family wash through a hole in the ice of the river, with the wind blowing a gale. Blumenthal told them in Russian that here was a stranger who had never seen that before, and they replied angrily that Blumenthal could tell me that things were better in the time of the tzar, when there was a shed built at least to protect them. So it goes, contradiction after contradiction. Wrote up notes, then at lunch at 6 p.m. One is hungry after those long waits. Left until 7.30, and then went out to the Friends quarters at 16 Borisoglebsky Pereolok. A.D. was with HOS in Russia. Is taking the Nurses' course in the Narkomsdrav's school for nurses. She thinks there is an extraordinary opportunity for nurse-training. There are no teachers, excepting the doctors, and the wisest move would be to get a few doctors out of Russia to see what can be done with nurses' education. Then a few nurses for advanced training. Anything done in this model center of the Narkomsdrav would be reduplicated institutionally almost in hundreds. In the nurses' course there is two hours of what is called general literacy, no other course has more than two hours a week, except the course of political literacy, i.e. a sort of catechism of Communism, which takes four hours a week. Much time of the students is taken by semi-political and social clubs. There are about two thousand doctors on the unemployment lists, service in the country being exceedingly difficult. The feldcheritzas get a minimum of three years training with considerable theory, and they are better in practice than the doctors who are poorly-trained. Courses for feldcheritzas have now changed hands, and are in the control of the organization responsible for maternal and child welfare. Took the night train for Leningrad in the blizzard. Excellent train, thoroughly comfortable; on time. What a country! It would not have surprised me to see wolves out of the car window, as we went northwards through dark, bleak, snow-covered swamps.

Alice Davis & Boris White.-

Wednesday, December 14th.- Leningrad.-

Gantt.-

Met by Gantt at the station. Went to the Hotel Europe, and got a room with a bath. Leningrad immeasurably more agreeable than Moscow in the cleanliness and more cheerful expression on people's faces. Decency of stores and the order and maintenance of everything on the streets. Gantt reported general mental depression, especially acute this winter. Great anxiety over likelihood that Great Britain will declare war on Russia. This has been whipped up into a matter of almost certainty on the minds of most people. Gantt has studied public health conditions in Russia, and

Wednesday December 14th (contd.) - Leningrad.-

accumulated a lot of material. He cannot afford to spend the time necessary to bring it together. He is working still on the translation of Pavlov's books. Is almost sure that he will be through in the spring, when he will go home in America and try and find a place to make his living. Pavlov's work is extraordinarily interesting. An item new to me was that dog with duodenal fistula shows a conditioned reflex in biliary secretion after a few injections of diluted hydrochlorbgetic acid. This is important in that it shows that secretion controlled by the autonomic nervous system can form conditioned reflexes independent of consciousness. Pavlov.- [Spent evening at Pavlov's home. He is an extraordinary old man. Vigorous and immediate in all his responses. Uses his hands most expressively in conversation. Seemed delightfully ignorant of Rockefeller Foundation. At one of my questions through Gantt as my interpreter, Pavlov almost bounced off his chair, crying out: "Would to God at least another nation had a Government like this one, for then someone might understand our difficulties. Young people of the present time in Russia are doing nothing and learning nothing, and all the decent work is done by persons with pre-war training. Communism is madness".]

Thursday December 15th.- Leningrad.-

Gantt.- With Gantt to Pavlov's laboratory. Splendid new building built especially for conditioned reflexes on animals. Saw an experiment run through. It would have bewildered an antivivisectionist to see how cheery and eager the dog was to go through his paces. A Kupalov.- young assistant, Kupalov, very interesting and happy. His face beamed with excitement and almost glory when we talked of the possible applications of the principles involved in conditioned reflexes. Then went to the Leningrad Medical Institute, where I got some general information from a group of teachers. Then to surgical clinic. They keep a wall-chart of the record year by year of clean cases that go septic, and of the death-rate of the clinic. In 1923, 30% of the clean cases went septic. Now 10%. The death-rate of the clinic on the basis of admission was 4% . Books for students a great problem. 3 copies of a text-book in the library Skrobansky.- for 250 students. Then visited the obstetric clinic (Skrobansky). Fare all round the clinic in tow of a delightful puffy little dictator who was so excited that he locked himself out of his own room, and with true obstetric resourcefulness finally succeeded in opening the door with an obstetric instrument as a key. Then to anatomical museum. Formerly Weinberg's work. A splendid teaching museum of dissections. Best of its kind I have seen anywhere. Two floors and all the hall-ways available. The Russians find this type of teaching museum new, and are very enthusiastic Madson.- about its value. Brief visit to Institute of Botany under Madson.

Thursday December 15th (contd.) Leningrad.-

Lichatchof.- Interesting work in mycology. Visited Professor of Pharmacology, Lichatchof. Small but well-equipped institute. Three assistants, but about a half of the work done by clinicians who are there as volunteer assistants. Academic careers are greatly strengthened in Leningrad by work in theoretical branches. Institute got 100 rubles a month before the war, and now gets 70. Each student gets 6 to 8 exercises of 3 hours each in practical pharmacology, and this is the first place in Europe where the professors have answered my question in terms of what the pupil gets instead of what the professors and teachers give. Number of students each year limited to laboratory facilities. Out of 1000 applicants, about 200 are accepted. 100 of them will be from the Rabfak, i.e. Secondary School for the proletariat, and the other half, or 100 students, will be divided in the following order of preference:
1) children of workers in factories, and professors' sons;
2) children of Government employees;
3) children of other workers;
4) children of merchants and "boorjoui".

The will to work among the students is as good as ever it was, or better. Took dinner with Gantt in the Proletarian Restaurant. Huge, steaming, perfectly orderlyplace, where for 75 cents you get a drayman's helping of cabbage soup, pork, potatoes, and rather insipid red jelly. Plenty of noise, good deal of dirt, but everyone polite and well-behaved. So many places and customs remind me of America.

Friday December 16th.- Leningrad.-

Pretty strenuous cold, made worse by over-heating inside and zero weather outside. No train for Riga on Wednesday. I don't like leaving so soon, but if I had got my visa for Russia when it was promised, I would have had two weeks more here. Talked with my interpreter here, Dr. Nathalie Sviashcheninoff. She graduated in 1928 from the Medical Institute, and has been a district physician at Putilovo for nearly three years. She receives a salary of 90 rubles a month. Her work extends within a radius of 30 kilometers in all directions. She is in charge of a hospital with 300 out-patients a day, with a district population of 19000. She has one younger girl assistant. In the village alone there are 9,000 people. She is at present on leave with retinal hemorrhage. She has never refused to go on a call and is completely tired out. She says the reason for the unwillingness of certain young doctors to go "to the periphery", i.e. into country places, is the certainty of over-work and underpay.

Dr. Nathalie Sviashcheninoff.-

Went to the Institute of Pharmacology of the Medical Academy. Professor S.V. Anitschkoff. Young and active. Friend of Wendelenburg's, Janson, and Magnus'. Considerable information from

Prof. S.V. Anitschkoff.-

Friday December 16th 1927 (contd).- Leningrad .-

him. He was very attractive and direct. Later to laboratory of pathological anatomy. Excellent show. In to Physiology under Professor L. Orbely. Good practical work. Then to laboratory of parasitology and zoology under Pavlovski. Was amused to see among the pictures used for demonstration a photograph of a small boy holding a board on which were pinned all the worms he had recently been acting as host to. I took this picture on Sunday morning on the Island of Santa Catherina (Could SB see that Professor Pavlovski Institute of Zoology and Parasitology of Academy, Leningrad, gets the back numbers of the I.J.E.B. Bulletin?) Then to Clinic of Oto-Laryngology of Professor Velyatchek. He is the chief of the military Medical Academy, and a shrewd citizen. Told Anitschkoff not to let me out of his sight while I was visiting the Military Academy. Then to Institute of Hygiene and later to Institute of Epidemiology and Bacteriology, [illegible] friend of [illegible]

L. Orbely.-

Professor Velyatchek.-

That night went to the only independent theater in Leningrad. Midgets and small. Good artists, but pathetic proportion. Romantic song about Paris as belonging to another and by inference, better world. Triangular love affair presented as Opéra, Opérette and movie. Rather clever and amusing. Then went to a movie showing life in the Caucasus. Excellent and very interesting. Remember the Nevsky Prospekt at midnight. Beggar with nothing but cotton-shirt shivering on the ice. Went to a night club. Night low life not preferable to night high life. Same instincts and much the same behavior. Worse clothes and incomparably dirtier floors.

Saturday December 17th.- Leningrad.-

Dr. Bechnovskaia.- Venereal clinic under Dr. Bechnovskaia. What most of the clinics need is repair and again more repairs. Then to Institute of Pathological Anatomy and later experimental medicine, and then off to State Institute for the improvement of doctors, i.e. post-graduate school on the other side of Leningrad. A remarkable show, where the laboratories are clean, and where the chief doctor, Kharit, knows what his organisation is doing. About two thousand doctors a year come from all over Russia for post-graduate work, which is run by separate Institutes. 25% of the post-graduates come back between their third and their fifth year after their graduation. 25% between the 6th and the 10th year, and 40% between the 11th and the 20th. 60% of the post-graduates are men, 40% are women. The average age of death in Russia for a physician is 51 years. There are about 28,000 doctors in the U.S.S.R.

Kharit.-

Saturday December 17th 1927 (contd).- Leningrad.-

Kholatov.- Went to dinner at Kholatov, a member of the party, married to a former Moscow artist, a dancer who was a friend of Gordon Craigh. Very attractive person. Good deal of explanation from Kholatov of the wheels within wheels of the Communist party. All kinds of talk until 2 a.m. Kholatov said, by the way, that the system gaining ground in America of workers' part ownership in industry and sharing profits thereof, is the despair of the Communists.

Gantt.- Gantt insisted that I repeat to him that there was no widespread talk in Eastern Europe of the certainty of early war between Britain and Russia.

Sunday December 18th.- Leningrad.-

Visit to the Winter Palace and the Ermitage. This a huge museum now crowded with visitors. In 1917, 60,000 people visited it. In 1926, 1[illegible],500 people came on excursions, i.e. communist education, and 84,000 as individuals. The treasures of art are more numerous and better displayed under the present Government than before. This information from a woman curator of the French collection, who lost most of her possessions in the Revolution. Then to

Glasounov.- tea with Gantt at the house of Glasounov, the composer. He and his step-daughter played part of a symphony on two grand pianos, perfectly magnificently, with the result that I was only two

Anitschkoff.- hours late to dinner at Anitschkoff's. Gantt insisted meanwhile that it would make no difference whatsoever. It did not apparently. Anitschkoff formerly of nobility, I inferred, but is open-minded and unprejudiced in comparison to Conservatives in other parts of the world who have suffered nothing from the Revolution. He says the workers nowadays are not much better off, but feel the pride and pleasure of being a privileged class.

Monday December 19th.- Leningrad.-

Keltsev.- Met Professor Keltsev and his wife (from Moscow), and bought 200 rubles from them in a back-room. They hope to collect enough to get to the Genetics Congress in America. He is by nature an optimist, and so is she. Went into the church of Alexander III, which was full of worshippers at 10 o'clock Monday morning. Saw the stone steps over which the Church has been built, and on which it is still visible the spot of dried blood of Alexander III, who was murdered by the revolutionaries of his day. One would suppose

Dr. Nikolaieff.- that the Church would be closed. Talked with Dr. Nikolaieff, representative of the Time, which is a school of medicine growing out of a psycho-neurological Institute over which Bechterev presided.

Niemenoff.- In afternoon went to Niemenoff's Institute for X Ray. Extraordinarily well-equipped. Another one of these model Institutes. Perhaps for show purposes, but none the less useful as a demonstration and as

Monday December 19th (contd).- Leningrad.-

Shevkunenko.-

Gantt.-

a center for influence later in the development of this country. Then to Institute of Anatomy of the Military Academy, and a talk with Professor Shevkunenko. S. was for 15 years in life insurance work in New York, and is responsible for social insurance scheme in Russia. Very attractive critical mind, original and independent. Dinner with Gantt and discussion of many phases of impressions here. In general people have been much relieved to be told that I was not going away from Russia with fixed ideas and the conviction that I knew what the situation was. It is a great and fluid country with enormous opportunities. A country extraordinarily far from the point of view of Western Europe. Certain to undergo changes as the body of a child undergoes changes by cellular wear and tear and replacement. The Revolution attracts the best and the worst. The life has to be lived, and these theories which will work will work, and these which are false will have to be discarded. It is a country easy to lie about, but the trouble is that most of the lies arise from prejudice and fear. The cost of Revolution and the changes Russia has been through are quite outside our imagination.

Tuesday December 20th.- Leningrad.-

Left Leningrad for Riga, went to bed, and slept all day and all night.

Wednesday December 21st.-

Riga to Berlin, do.

Thursday December 22nd.-

Berlin to Paris, and still under the pall of that country.

Christmas and the week following with the family in Croissy.