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INFORMATION REPORT

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1. course of study at Kharkov Engineering Hydro-Meteorological Institute

- a. To enter the Institute the student must have completed 10 years of schooling and be able to pass a competitive examination on the following subjects:
- i. Mathematics, including intermediate algebra, plane and solid geometry, and trigonometry
 - ii. Physics, including light, heat, sound, electricity and magnetism, and elementary mechanics
 - iii. German.

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50X1-HUM

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-2-

However, during the years 1930-39 there were more openings at the Institute for students than there were students. The school had to advertise to obtain a sufficient number of students. About 1939 or 1940 a tuition fee of three hundred rubles per semester was charged.

50X1-HUM

After 1939 a need for permanent factory workers and other skilled laborers was met by dividing the students of the "middle schools" (the first 10 years of school) into two groups. One group was given a course which would lead only to industrial or factory work, while the other group worked toward professional careers. [redacted] a third group was probably added in 1941, composed of those who would be chosen for the military services. Members of the Party decided which type of course of instruction a child would take. No military training was given in the middle school.

50X1-HUM

b. The course of study at the Institute was the same for both the hydrology and the meteorology students during the first two years, and some basic courses were given to both groups during the remainder of the five and one-half years. Included in the list of subjects required of all students were the following:

- i. Mathematics - a total of eight hundred hours.
- ii. Chemistry - two semesters of the first year with two lectures per week of two hours' duration, and two laboratory periods each week, also of two hours' duration. During the second year the same amount of time spent on qualitative and quantitative analysis.
- iii. Physics - a total of four hundred hours. [redacted] The Institute at that time did not have its own laboratory for physics, but used the laboratories of the Technical Institute of Kharkov and of the University of Kharkov.
- iv. Ukrainian Language - two hours per week, for one year.
- v. Physical Geography - four hours per week for one year.
- vi. German Language - taught for four years [redacted]
- vii. Political Economy - two hours per week during first year.
- viii. History of Communist Party - two hours per week, first year.
- ix. Marxism - two hours per week, second year.
- x. Dialectic Materialism - two hours per week, third year.
- xi. Leninism - two hours per week, fourth year.
- xii. Leninism - two hours per week, fifth year.
- xiii. Economic Policy of the USSR - two hours per week, fifth year.

50X1-HUM

Those who elected to take the course in meteorology were required to take the following:

- i. General Meteorology - four hours per week for two years.
- ii. Climatology and Climatography - two hours per week for three semesters.
- iii. Microclimatology - two hours per week for one semester.
- iv. Dynamic Meteorology - six hours per week for one semester, then four hours per week for two semesters.
- v. Synoptic Meteorology - four hours per week, and part of the time six hours per week, for five semesters.
- vi. Aerology - two hours per week, and part of the time four hours per week, for three semesters.
- vii. Two periods of three and four months' full-time work at some well-equipped weather office or observatory. [redacted]

50X1-HUM

c. The full course at Kharkov Engineering Hydro-Meteorological Institute covered five and one-half years, with two semesters of four and one-half months' duration each year.

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-3-

d. [redacted] a great deal of practical work was required, as shown in I. A. D./

e. The Institute graduated about 60 students per year--30 in meteorology and 30 in hydrology. The total student body usually included about 325 pupils.

2. [redacted]

3. [redacted]

There were in the USSR schools termed hydro-meteorological technical schools. Known [redacted] were the ones at Moscow, Rostov, and Feodosys. It was intended that the graduates of these schools be technicians in meteorology, but in times of need some of them were given positions as professional meteorologists. They entered the technical school after ten years in the "middle school." The course lasted three years. In these schools more practical work and less theory were offered than in the Institute at Kharkov or the similar one at Moscow. Students received much of their practical training at the weather bureau stations.

4. [redacted]

5. [redacted]

No estimate is possible concerning the total amount. [redacted] the cost of each radiosonde run was approximately three hundred rubles. A flight carrying a meteorograph aloft cost 60 rubles per hour, and lasted one and one-half hours.

6. [redacted]

8. [redacted]

The frontal and pressure analysis was used along with certain upper-air charts, much according to the methods used at that time by other leading countries of the world.

The 900 millibar, the 700 millibar, the 500 millibar, and when available the 400 millibar charts were used. [redacted] stations from which radiosonde data were available for use on these charts: Moscow, Leningrad, Kharkov, Kiev, Rostov, Archangel, Kharbarovsk, Alma Ata, Tbilisi, Baku, Sevastopol, Minsk, Smolensk, Novosibirsk, Sverdlovsk, Krasnoyarsk, and Odessa.

5UX1-HUM

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-4-

9.

[REDACTED]

The Central Forecasting Institute made general forecasts and master analyses for the entire USSR, which were broadcast and made available to the smaller weather offices. However, the forecasts and analyses of the individual forecast centers did not necessarily have to agree with those sent out from Moscow.

10.

[REDACTED] the military meteorological organizations, their responsibilities and their dependence upon the Central Administration of the Hydro-Meteorological Service.

[REDACTED]

The military airports had their own observers and forecasters. The observations taken at a military airport were used only by that airport, and were not transmitted for use by others. The maps were drawn using the same data that were used at the civilian stations. [REDACTED] some research was carried on by the military meteorologists concerning frontal slopes and the nature of thunderstorms. In an investigation of a cumulo-nimbus cloud one of two pilots was killed, while the other was seriously injured. The pilots lost control of the plane, and jumped with their parachutes, to land seventy kilometers from the place over which they had jumped.

11.

[REDACTED]

c. Molchanov was known to be working on a cheaper and lighter radiosonde, and striving to improve the humidity element. However, the one which he produced as an experimental model was too expensive because of the platinum used in it.

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-5-

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17.

In Kharkov planes were not used for weather reconnaissance, except with the meteorograph flights. Occasionally, however, eight or nine radiosondes would be released the same day in order to determine the changes in the atmosphere with a frontal passage. Sometimes the meteorograph was attached to a balloon and carried aloft like a radiosonde.

18.

g. The Kharkov Optical and Photographic Equipment Plant, "Krasnov," was made up entirely of workers who were trained in a reformatory, boys who had run away from home, or who had no home. Such were put into the reformatory whenever they could be caught. Apparently it was quite common to have such boys roaming around the country like hoboes.

i. The University of Kharkov is on University Street. It was long noted for excellent course in medicine the medical school was separated from the rest of the University.

50X1-HUM

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