GEOGRAPHY

Four Russians at North Pole Get Together Once a Day

By ERNST KRENKEL

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DIFFERENT hours have been fixed for every one of us for scientific observations and work during the 24 hours of the day. We therefore sleep at different hours. We come together only at dinner time, about three o'clock in the afternoon.

I am the permanent night watchman from midnight to six o'clock in the morning. At ten minutes to six I wake Fedorov to get up for his first morning meteorological observations. He soon starts drafting his routine weather reports, kneeling before his instruments.

At 6:15 a. m. Rudolf Island demands a weather report. The switches of the radio transmitter click as usual and it hums evenly.

Meanwhile Fedorov has already boiled tea and fried a heap of sausages. We drink tea in the living tent, otherwise the frost makes the butter, caviar and cheese inedible. We soak our biscuits in tea in order that their crackling should not awake Papanin who, in his own words, sleeps like a hare.

Sometimes the morning tea is interrupted to check the chronometers or by a sudden appearance of the sun, which demands immediate astronomical observations.

After breakfast Fedorov retires to his ice "study" or remains in the tent and plunges into his notebooks, reference books and charts and becomes absorbed in calculations. A glorious time then begins for me; I crawl into the sleeping bag. About 9 a. m. Papanin and Shirshov get up. Fuel, stores, lamps and all other details in the life of the camp form the scope of Papanin's untiring activities.

Shirshov spends whole days in his tent over the ice-hole. All smeared with grease, with hands blue from contact with the ice-cold water, he is accumulating most interesting material.

It is very hard to warm up frozen porridge and soup so that nothing is burned. Two principal demands are made of food: hotter and with the least expenditure of kerosene.

After dinner we have an hour's rest and then we continue our work.

It is very cozy in our place at our evening meal, at about 10 p. m. Fedorov is already asleep and only three of us drink tea. The principal subjects of our conversation are Spain, China, and Moscow. Everyone has a radio head-phone on. At 11:30 p. m. we regularly hear Moscow's loud and distinct broadcasts.

I go out to make my meteorological observations. Under a clear sky the cold is particularly felt. The horizon is covered with a frost haze, there is no wind —which means that the night duty will be quiet and the question, "How is the wind?" won't resound from Papanin's sleeping bag.

Every hour I inspect the camp, I guess in the darkness the familiar heaps of ice-blocks. The antenna hangs like a thick rope covered with an extraordinarily thick layer of rime. Our dog Vessyoly whines in his sleep; apparently he has a nightmare. There is a tinkling stillness around, now and again one hears ice cracking somewhere. It seems as if everything is frozen. But the ether roars with music for all tastes, and the revolving meter lowered into the water will evidently again show, at five o'clock in the morning, a considerable drift of our ice floe to the south, despite the absence of wind.

At 5:30 in the morning, I hear a cheerful march from Moscow. I become terrified at the words of the instructor of morning exercises: "Open the window, put your shorts on." The water procedure, which he recommends, we perform in the only way possible to us—we drink hot tea.

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BOTANY

Engineering With Plants Forecast By Botanist

"PLANT engineering" as an important aid to enterprising horticulturists was forecast by Dr. Frits W. Went, botanist of the California Institute of Technology, in an address at Los Angeles.

The speaker's play on words does not refer to mechanical engineering in the common sense, however. The distinguished plant physiologist really meant literally what he said, viz., the constructive engineering of living plants, with the aim of producing more satisfactory crops. Nominally this may mean the making of big plants where only little ones have hitherto grown; but actually by indirect reaction the plan may bring improvement in quality as well.

The time-honored methods of improving on Nature's forms of vegetation, such as seed selection and hybridization, have well-known limitations. The plant breeder often produces trees with superb quality of fruit, but with poor yield, poor resistance to pests, disease or harsh climate, and worst of all, dwarf growth habits. At this point Dr. Went proposes to use growth hormones, which are potent organic chemical compounds that may happen to be missing in the case at hand. He considers it not impossible that a vegetable dwarf of choice quality may be led to develop to unprecedented size. If hormone treatment can be made to solve the problem of size and rate of growth, then much greater freedom is allowed to the expert in pollination and hybridization.

The hormone may be administered in the manner of either soluble chemical fertilizer or spray, or by soaking parts of plants or seeds. Unlike fertilizers, the hormones are applied only in extremely dilute form. For example, the rare chemical indoleacetic acid, which has exhibited high hormone potency, may be mixed with as much as ten thousand parts of water for use in soaking cuttings which

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one wishes to root rapidly and vigorously.

Hormone application has reference to certain cases where it is not practical to propagate a plant from seed. Such varieties are of course commonly grafted or budded upon robust seedling plants. Unfortunately the graft junction often seems to constitute at least a partial barrier to growth hormones which should be passing regularly from root to tree-top. As a result many grafted plants are somewhat dwarfed. Artificial application of hormones thus provides the remedy, assuring adequate growth.

Science News Letter, November 6, 1937

PSYCHIATRY

Madness of Nations of World Diagnosed by Psychiatrist

United States Rated as Manic-Depressive; Russia Adolescent; Germany Paranoid; Only a Few Are Normal

THE United States is declared to be suffering from a "typical manic-depressive psychosis" and most of the other great nations of the world are diagnosed as suffering from various kinds of madness in a scientific discussion published in *Science* (Oct. 22).

The psychiatrist diagnosing is Dr. S. H. Kraines of London's National Hospital for Diseases of the Nervous System, who last year was on the staff of the University of Illinois Psychiatric Institute.

The manic attack of Uncle Sam's insanity reached its climax in years before 1929, Dr. Kraines writes. In its manic phase, just as in the manic patient, the United States is happy, elated, very active, dreaming great dreams, doing many things beyond its capacity and speaking loudly of the success which it is achieving.

"Following the crash in 1929 came the depressive episode," Dr. Kraines continues, "and here again the analogy between this depression and the manic-depressive depression is striking. In both instances is there a marked retardation, marked ebbing of energy, many complaints, inability to think through clearly, insomnia, bad dreams, fears, a poor appetite and a decline in the birth rate. He needs to learn to smooth out his swings."

The only really normal countries in this world today, in Dr. Kraines' diagnosis, are Norway, Sweden, Denmark, Holland and Switzerland.

France reminds him of an elderly, fearful spinster, gingerly treading her way, holding her skirts high, suffering from an excessive emotionalism and apprehensiveness.

Germany is going through a depressive phase with marked paranoid symptoms. The depression has been chronic, the paranoid ideas have been coming on gradually in the last few years. Persons with such symptoms are potentially very dangerous, because they possess reason and great energy.

Italy is really a feeble-minded person who has seen others grow great, who envies them and feels that he too can become a great person.

Japan is a small, dynamic, psychopathic personality with marked temper outbursts and ideas of grandeur.

Russia is physically a strong young man who has just passed through the throes of puberty.

China reminds Dr. Kraines of a middle-aged, bald-headed man who once was very fat but now has become gaunt and has large hanging folds of skin. He is becoming very irritable at the persistent stings given him by the irascible, small, psychopathic neighbor.

England is viewed as a solid, settled business man who has just gone through a depression and has "taken it like a man." He has become "too set in his ways" and needs to change. He has many grown-up sons, some stable, some unstable, but practically all wilful.

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Bark of the western hemlock tree has been found a promising source of tanning, for use in tanning heavy leathers.

A new kind of rubber road-joint strip is expected to make driving smoother on concrete roads, because the rubber filling at road joints will not bulge above the surface.

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