

Summary and Conclusions

One may doubt whether bona fide monsoon circulations are an adequate explanation of the seasonal climatic phenomena of southern and eastern Asia. The evidence is fairly strong that many of the region's distinctive climatic features result from large-scale changes in atmospheric circulation patterns associated with locational shifts of the jet streams. In these seasonal shifts in the jet the highlands of central Asia, with their excessive altitude but short latitudinal extent, play an important role. The splitting of the zonal westerlies in winter so that a high-velocity and positionally-stable jet is anchored along the southern slopes of the Himalayas, carries in its train important climatic consequences. Through the jet's regenerating and steering effects upon perturbations it localizes the winter precipitation of northern India-Pakistan and of South China. On the equatorial side of the Himalayan jet

strong subsidence acts to create the dry seasons of winter and spring, especially on the subcontinent. The weaker and locationally less stable northern branch of the winter jet, to the north of the Central Highlands, has no such regionalizing effects on winter precipitation as does its more stable southern counterpart. In the Tibetan lee-convergence zone between the two winter jets, is a region of strong cyclogenesis, the perturbations which originate there markedly influencing the winter rainfall of South China.

Concurrent with the disappearance in early June of the Himalayan jet from its southern winter position to one north of the Central Highlands, there is a rapid northward surge of equatorial air over southern and eastern Asia, which in turn ushers in the summer rainy season with the "Burst of Monsoon" in India and the beginnings of the Baiu rains in southern China and Japan.

BERICHTE UND KLEINE MITTEILUNGEN

GEOGRAPHIC RESEARCH AND TEACHING INSTITUTIONS IN THE SOVIET UNION

Notes on a Trip to the USSR in May-June, 1957

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Although I have long been interested in the geography of the Soviet Union my first trip to this country was in the summer of 1957. Travel at this time was made possible by the opening of the USSR to foreigners for 30-day tourist visits.

The main value of my trip was not research on some geographical topic or area in the Soviet Union but the meeting of many Soviet geographers and the visting of several geographic institutions¹⁾.

I was deeply impressed by (1) the friendliness of Soviet geographers and their sincere desire for international contacts, for learning about geographic work in other countries, and for the international recogni-

tion of Soviet work, and (2) the tremendous scale of geographic training and research programs in the Soviet Union.

A warm reception was extended to me. In particular, the Soviet geographers who had participated in the 18th International Geographical Congress in Rio de Janeiro in 1956 helped to establish contacts with other Soviet geographers and with research and training institutions. Altogether I was able to talk in small groups with about 140 geographers.

I was asked to talk about the organization of American research in geography at the Institute of Geography of the Academy of Sciences of the USSR and this talk was later published²⁾. I was also invited to lecture on American agriculture at the All-Union Geographical Society in Leningrad and before the

¹⁾ For general accounts of geography in the universities and the Academy of Sciences of the USSR see:

Dresch, Jean: „L'Enseignement de la Géographie et la Recherche en Union Soviétique“, *Annales de Géographie*, No. 345, Vol. 64 (September-October 1955), pp. 378—386.

Ryabchikov, A. M.: „Geographical Education in State Universities of the Soviet Union“, paper presented to International Geographical Seminar in Aligarh, India, Moscow, 1955, 18pp. and map (processed).

Kalesnik, S. V.: „Podgotovka Issledovatel'ia i Prepodavatelia Geografii v Universitetakh SSSR“, in *Voprosy Geografii, Sbornik dlia XVIIIgo Mezhdunarodnogo Geograficheskogo Kongressa (Akademiia Nauk SSSR, Geograficheskoe Obshchestvo Soiuza SSR)*. Moscow-Leningrad: Izdatel'stvo Akademii Nauk SSSR, 1956, pp. 18—23; also available in French as *S. V. Kalesnik*, „La formation des explorateurs et des professeurs de géographie dans les universités de l'URSS“, *Essais de Géographie, Recueil des Articles pour le XVIIIe Congrès International Géographique*. Moscow-Leningrad: Izdatel'stvo Akademii Nauk SSSR, 1956, pp. 18—23.

²⁾ *Vestnik Akademii Nauk*, 1958, no. 2. pp. 23—30.

Geography Faculty of Moscow University. About 500 individuals were present at these talks.

Frankly, I must admit my astonishment at the vast scale of Soviet geographic work. The University of Moscow has a geographic staff of 300! The Institute of Geography of the Academy of Sciences of the USSR has a full-time research staff also of about 300. The Institute of Scientific Information now provides the most comprehensive international abstracts and bibliography in geography. Not only the quantity but also the quality of the publications was impressive.

1. Academy of Sciences of the USSR (*Akademiia Nauk SSSR*)

- a) Division of Geology and Geography (*Otdelenie Geologii i Geografii Akademii Nauk SSSR*)
Bol'shaia Kaluzhskaia 14, Moscow

Leading scientists are *D. I. Shcherbakov*, Secretary of the Division of Geology and Geography, *I. P. Gerasimov*, Director of the Institute of Geography, *V. G. Kort*, Director of the Institute of Oceanography, *A. A. Grigor'ev*, former head of the Institute of Geography, *G. A. Avsiuk*, head of the section on glaciology of the Institute of Geography, and *P. F. Shvetsov*, head of the Institute for the Study of Permafrost.

The Academy of Sciences has 120 institutes and branches. For convenience of administration these are grouped into 8 divisions, one of which is the Division of Geology and Geography. Among the institutes in the Division of Geology and Geography of particular interest to geography are the following: permafrost, oceanography, and geography. *Gerasimov* noted that some work outside the Academy is of interest and should be coordinated.

The tendency is to work on big problems, not on small individual research studies.

The major problems for the Institute of Oceanography are:

- (1) Circulation of the water in the oceans and seas of the world.
- (2) Biological productivity.
- (3) History of world oceans.

The Institute for Permafrost has as its task the study of the physical geography and geological conditions of heat transfer and balance, amelioration, geological prospecting problems, the role of air and water, and the water, heat, and physical regime. Problems of construction are studied. There are five research stations: (1) Vorkuta, with about 50 persons; (2) Igarka, with about 35 persons (or 135?); (3) Yakutsk, with 120; (4) Chukotsk Peninsula (Anadyr'); and (5) Aldan (Chul'man). Geologists, geophysicists, and geographers work in the Institute.

Work of the International Geophysical Year is carried on in oceanography (10 expeditions), in glaciology, and in permafrost. Work in climatology is under the Hydrometeorological Service. There are 15 stations in Antarctica and 12 in the USSR. Some 50 people in the Institute of Geography are working

on the International Geophysical Year programs. The academies of science of the union republics also contribute. Moscow State University also cooperates in glaciology. It especial interest is research on Fedchenko glacier (there was also work in 2nd polar year). In oceanography there is work in 17 countries, 12 research ships, 2 of which are by Academy of Sciences.

Among the major programs and expeditions in oceanography for the International Geophysical Year are those of the Institute of Oceanography of the Academy of Sciences, the Hydrometeorological Service, and the Ministry of Fish Production. Much other work is carried on at home in many institutes and by individuals.

- b) Institute of Geography, (*Institut Geografii Akademii Nauk SSSR*)

Staromonetnyi pereulok 29, Moscow

The Institute of Geography is about thirty years old. At first it was a small group of geomorphologists in Leningrad, 10—15 in number. Now the staff includes 300. The Institute moved to Moscow in 1935. The move into the present building at that time included a staff of 70 or 80. The building is now badly overcrowded. It is hoped to move into a larger building this year.

This Institute is under the directorship of Academician *Innokenti Petrovich Gerasimov*, chairman of the Soviet national committee for the International Geographical Union. *M. B. Gornung*, secretary of the Soviet committee for the International Geographical Union, speaks English, French, and German. He is particularly concerned with foreign liaison of the Institute. The Institute is under vigorous and able research leadership. Possibly nowhere else in the world is there a comparable concentration of research resources devoted solely to geography.

The Institute maintains four laboratories: (1) pollen analysis, (2) biochemical analysis, (3) photography, and (4) stereogrammetry. The Institute also has four field stations: near Moscow, in the northern Urals, on Novaya Zemlya, and in the Tian'-Shan'.

The Institute is divided into ten sections:

(1) Physical Geography. Chief: *Gavril Dmitrievich Rikhter* (then in Antarctica). Three types of work: (a) organization of complex expeditions, (b) field stations, and (c) physical geography of the USSR.

(2) Geomorphology. Chief: *Boris Aleksandrovich Fedorovich*. Its tasks are the organization of field expeditions, monographs, and a map of the geomorphology of the USSR. A map of the geomorphological regions of the European part of the USSR in color was hanging on the wall of the office. This is the largest section, with a staff of 40.

(3) Climatology and Hydrology. Chief: *Boris Lvovich Dzerdzeevskii*.

(4) Biogeography. Chief: *Aleksandr Nikolaevich Formozov*, who was at the 18th International Geographical Congress.

(5) Economic Geography of the USSR. Chief: *Sergei Nikolaevich Rizzantsev*. Its tasks are (a) individual monographs on about 22 major economic regions of the USSR; a region may be a republic, but the RSFSR is divided into

9 regions. About twenty of these are now published. Some monographs are written in cooperation with local groups, some are new, some revisions. (b) Work on concrete economic problems, such as construction on the Angara River.

(6) Geography of the Democratic Republics. Chief: *Nikolai Fedorovich Ianistskii*, who was ill. *Zaichikov* was in his place. Task: monographs of separate countries. The geographers can visit the areas of their work. This is a great advantage over the work of the next section.

(7) Geography of Capitalist Countries. Chief: *Konstantin Mikhailovich Popov*, a specialist on Japan. This is one of the smallest sections, with only 20. Aim: monographs on the separate countries.

(8) Cartography. Chief: *Nikolai Fedorovich Leontiev*.

(9) History of Geography. Chief: *Andrei Aleksandrovich Grigor'ev* former head of the Institute.

(10) Glaciology. Chief: *Grigori Aleksandrovich Avsiuk*. This is the newest section, having been organized for the International Geophysical Year.

The Institute has the following publications:

(1) *Izvestiia Akademii Nauk SSSR. Serii Geograficheskaiia*. Most work in it comes from the Institute, so that it is practically a house organ.

(2) *Trudy Instituta Geografii*. Issued in various series.

(3) Monographs on countries, on regions, or on problems.

(4) A scientific-popular series.

Publications may be issued by the *Akademiia Nauk* or by *Geografiz*.

To my suggestion that the Institute may be the largest geographical research institute in the world, *Gerasimov* replied that perhaps the institute in the Peoples Republic of China is larger; it had 150 a year or two ago and is growing very rapidly.

There are institutes of geography in the academies of science of Georgia, Azerbaidzhan, and Kazakhstan. There are section for geography in the academies of science of Estonia, Latvia and Lithuania. There are branches (filial) of the academy of sciences in (1) East Siberia at Irkutsk; (2) Komi ASSR; (3) Urals (at Sverdlovsk). New institutes of geography are in the process of founding at the academies of science in Kiev and Tashkent. The Institute of Geography is now trying to establish new regional institutions rather than to expand itself. *Gerasimov* has been involved in the organization of an Institute in Siberia at Irkutsk.

The Institute of Geography receives 10 students each year from the university. The Institute has its choice of the best students, since it is considered an honor to work for the Academy of Sciences. Most come from Moscow University. Every five years the Institute has a competition for positions on the staff and anyone may apply. A committee makes the selections.

c) Geographic Section, Institute of Scientific Information

(Institut Nauchnoi Informatsii Akademii Nauk SSSR) Baltiiskii Poselok D 42 b, Moscow

This Institute attempts to provide a complete bibliographical and abstracting service on the geographical literature of the entire world for all research needs

in the Soviet Union³). The Institute publishes a monthly *Referativnyi Zhurnal: Geografiia*, a fat volume containing more than 2,000 bibliographical references and abstracts each month.

This journal goes to the universities and research institutions throughout the country and any individual may order from the Institute a photostat of any article cited. Individuals and regional libraries are thus freed from pressure for independent bibliographic work.

The Institute receives more than 600 geographical journals (and 12,000 other periodicals that may contain an occasional article of geographic interest). A staff of 35 is under the direction of *Vadim Viacheslavovich Pokshishevskii*. Most of the abstracts and reviews, however, are written by specialists outside the staff, to whom photocopies of articles are sent for reporting.

In total volume *Referativnyi Zhurnal: Geografiia* appears to exceed the combined bulk of the three other principal world bibliographical aids (*Current Geographical Publications*, *Bibliographie Géographique Internationale*, and *Geographisches Jahrbuch*).

There are three activities: (1) cataloguing, (2) making full bibliographical notes, and (3) preparing an abstract. On arrival all journals go to the office of systematization, for classification by language; here they are marked for reference according to fields (geography is only one of the fields covered by the Institute). A photo copy of the article is made, or the journal itself may be cut up if there are two copies. Items marked as of geographic interest then move to the geography section, which selects a reviewer who knows the language and the subject. The article is then sent out for review. The review is later returned to the office, where it is edited rather extensively, set in type, and proofread. Cards are then prepared for the various indexes, which are published annually. The bibliographical entry includes both full bibliographical details in the original language and translated into Russian. Bibliographical entries include not only all journals received but also references in certain other sources, such as national bibliographies.

Card catalogues are maintained by (1) the journal in which articles were published; (2) the author; and (3) number (date). The systematic index is the printed volume itself. Cards are distributed to universities.

It was reported that in geography about 60 per cent of the foreign material reviewed was originally published in English. In 1956 26,848 items were published as bibliographical notes, abstracts, or reviews in geography. These came from 6350 different publications (each issue of a journal is counted separately), distributed as follows: USSR, 1220; United States, 746; Great Britain, 488; Canada, 92; Australia, 82; India, 130 (total 1538 largely in English); Germany, 349; France, 336; Japan, 183;

³ See Institut d'Information Scientifique de l'Académie des Sciences de l'URSS. Organisation des Travaux de Bibliographie et d'Analyse de la Littérature Géographique en URSS. Moscow, 1956. 18 pp. (Processed.)

Italy, 149; Poland, 140; Switzerland, 123; Czechoslovakia, 103; Sweden, 92; China, 62; Finland, 61; and Hungary, 60.

2. Geographical Faculties of Universities

Of 34 universities in the Soviet Union, 28 appear to have programs in geography, mostly in separate geographical faculties but some in combined faculties of geography and geology⁴), and 6 seem to have no geography⁵). I visited only three of these Universities. The 5-year diploma program for geography students is similar in all. The program at the University of Leningrad will be taken as an example. During the regular 5-year course the student attends lectures in 31 subjects. Each typically lasts for the entire year. General courses outside geography taken by all students include Marxism-Leninism, political economy, foreign languages, chemistry, physics, mathematics, and geology. Certain courses in geography are studied by all students regardless of later specialization by department within geography: general courses in physical geography, geomorphology, climatology, hydrology, geography of soils, economic geography, and cartography. Students specializing in economic geography take a series of more specialized courses: geography of agriculture, geography of manufacturing, field methods in economic geography, economic maps, statistics, economic regionalization, economic geography of the USSR, and economic geography of foreign countries. Specialists in physical geography study methods of physical-geographic research in the field, interpretation of aerial photographs, cartography in physical geography, physical-geographic regions, and the landscape. Persons specializing in climatology study microclimatology, agricultural meteorology, dynamic meteorology, synoptic meteorology, methods of handling climatic data, and climates of the world. During the first year the students attend 32 hours of lectures each week!

The heavy lecture load is compensated for in part by two other parts of the study program. (1) The summers are spent in the field, typically for two years at a nearby field station, for a third year as a member of an expedition to some distant part of the country, and for the fourth year either as a member of an expedition or in independent research, in either case gathering material for the thesis. (2) During the second semester of the fifth year the student is engaged full time in the preparation of his thesis, which must be defended publicly at the end of the year. These theses are typically about 125 typewritten pages long. At the end of the 5-year course the student receives a diploma.

Of the 193 students who graduated from the 5-year course at the University of Moscow in 1957,

⁴ Universities in Alma Ata, Ashkhabad, Baku, Chernovtsy, Dnepropetrovsk (?), Erevan, Frunze, Irkutsk, Kazan', Kiev, Khar'kov, Leningrad, L'vov, Minsk, Moscow, Molotov, Odessa, Riga, Rostov, Samarkand, Saratov, Sverdlovsk, Tashkent, Tartu, Tbilisi, Tomsk (?), Vilnius, and Voronezh.

⁵ Gor'kii, Kaunas, Kishinev, Petrozavodsk, Stalinabad, and Uzhgorod.

12 per cent went into teaching positions, 44 per cent into practical work, mostly in government agencies, 31 per cent into research positions, particularly in the academies of science, and 13 per cent went into no fixed positions (because of marriage or other reasons). There is a shortage of geographers. Among the agencies that secured geographers from the University of Moscow this year were polar stations, hydrometeorological service, soil survey, cartographic service, Ministry of Railroad Schools, Ministry of Electric Power Stations, geological survey, Ministry of River Transportation, Ministry of Foreign Affairs, and the Institute of Geography of the Academy of Sciences of the USSR. Nearly all students have scholarships which cover their expenses of attending the university.

A few students continue on with graduate work for the 3-year *aspirantura* course leading to the degree Candidate in Geographical Science. It is said that in the USSR only about 3 per cent of the diploma students later undertake such graduate work but at the University of Moscow the proportion is much higher (perhaps 10 per cent). The *aspirantura* theses are roughly comparable with doctoral dissertations in German or American universities.

Only a very small number of Soviet geographers are awarded the doctorate in geographical sciences. This degree is granted on the basis of substantial published works extending over a number of years after the candidate degree.

One of the most striking features of geographic work in the Soviet Union is the smooth flow of well-trained geographers into teaching in secondary schools, into research institutes and institutions of higher learning, and into governmental agencies concerned with practical problems in developing irrigation or power projects, agriculture, or transportation.

a. Moscow State University

(Geograficheskii Fakul' tet
Moskovskogo Gosudarstvennogo Universiteta
Imeni M. V. Lomonosova)

Leninskie Gory, Moscow V-234

The Geography Faculty of the University of Moscow is a showpiece. The faculty maintains a staff of 300 professors, docents, teaching assistants, and research workers. The dean is *A. M. Riabchikov*, a specialist on the physical geography of India. The Faculty occupies six stories (floors 17 through 22) in the main new central building of the University of Moscow on Lenin Hills. Geography is the top subject of the entire university! Only the Museum of Earth Sciences lies higher (occupying stories 24 to 30 of the tower). Altogether, work in geography has at its exclusive disposal some 40 large study rooms and 18 laboratories, all equipped with modern facilities.

The 14 departments are organized as follows:

- (1) Physical Geography of the USSR. 3 professors and staff of 25.

Head: *Maria Alfredovna Glazovskaia*. Professors: *Nikolai Andeevich Gvodetskii*, *N. A. Solntsev* (formerly head).

Sections (each occupies a separate room):

- (a) Physical geography of the Caucasus: *Alexandra Efimeevna Feidin*.
- (b) Physical geography of Central Asia: Professor *Nikolai Andeevich Gvozdetkii*.
- (c) Physical geography of Siberia: *Nikolai Ivanovich Mikhail*.
- (d) Physical geography of European USSR and Urals: Professor *N. A. Solntsev*.

Three laboratories are under Professor *Maria Alfredovna Glazovskaia*: Laboratory for chemical analysis of soils, and vegetation; Quantitative chemical laboratory; and Spectrum laboratory.

- (2) Economic Geography of the USSR. 3 professors and staff of 29.

Head: *Iulian Glebovich Saushkin*. Professors: *Petr Nikolaevich Stepanov*, who has worked on geography of industry in USSR and has been in China, *Nikolai Nikolaevich Baranskii*.

Main workrooms:

- (a) The Urals. Professor *Stepanov*.
- (b) Central Asia. *Andrei Nikolaevich Rakitnikov*.
- (c) European USSR. *Tatyana Aleksandrovna Solovtsova*.
- (d) Siberia and the Far East. *Igor' Vladimirovich Nikol'skii*.
- (e) Regionization. *Tatyana Mikhailovna Kalashnikova*.
- (f) Systematic economic geography (agriculture, industry, cities).

- (3) Polar Geography. 3 professors and staff of 11.
Head: *Veniamin Grigor'evich Bogorov*. Professors: *Aleksandr Iosofevich Popov*, *Iona Lazarevich Freidin*.
- (4) Soil Geography. 2 professors and staff of 13.
Head: *Innokentii Petrovich Gerasimov*. Professor: *Iurii Alekseevich Liverovskii*.
- (5) Physical Geography of Foreign Countries. 1 professor and staff of 13.
Head: *Aleksandr Maksimovich Riabchikov* (also dean).

Sections:

- (a) South Amerika and Western Europe: *Evgenii Nikolaevna Lukashova*.
- (b) Africa and Australia: *Ludmilla Alekseevna Mikhailova*.
- (c) North America: *Grigorii Mikhailovich Ignat'ev* (who showed me around).

- (6) Economic Geography of the Peoples Republics. 1 professor and staff of 13.
Head: *Isaak Moiseevich Maiergoiz*.
- (7) Economic Geography of Capitalist Countries. 1 professor and staff of 11.
Head: *Ivan Aleksandrovich Vitver*.
- (8) General Geography. 2 professors and staff of 16.
Head: *Georgii Kazimirovich Tushinskii*. Professor: *Konstantin Konstantinovich Markov* (formerly dean, was to go to Antarctica).

Chief work here is on physical geography, on snow and ice, on paleogeography, on some general questions in the physical geography of the USSR, and on snow cover.

- (9) Geomorphology. 4 professors and staff of 24.
Head: *Ivan Semenovich Shchukin*. Professors: *Nikolai Ivanovich Makkaveev*, *Oleg Konstantinovich Leontief*, *Tatyana Vasilevna Zvonkova*.
- (10) Hydrology of the Land. 3 professors and staff of 22. (engineers and hydrologists; work for Goelro). Head:

Evgenii Varfolomeevich Blizniak, Professors: *Boris Aleksandrovich Apollon*, *Boris Pavlovich Orlov*.

- (11) Oceanography. 2 professors and staff of 11.
Head: *Aleksei Dmitrievich Dobrovolskii*. Professor: *Nikolai Nikolaevich Zubov*.
- (12) Climatology and Meteorology. 2 professors and staff of 28.
Head: *Boris Pavlovich Alisov*. Professor: *Sergei Petrovich Khromov*.
- (13) Biogeography. 3 professors and staff of 16.
Head: *Anatoli Georgievich Voronov*. Professors: *Nikolai Alekseevich Gladkov* (ornithologist), *Sergei Vasil'evich Viktorov*.
- (14) Geodesy and Cartography. 1 professor and staff of 50.
Head: *Konstantin Alekseevich Salishchev*.

This department has five laboratories: (1) photography, (2) air photos, (3) printing of maps, (4) geodesy and cartography (surveying), and (5) drawing of maps.

I observed the physical facilities and met portions of the staff for eight of the fourteen departments. The Department of Economic Geography of the USSR under the leadership of *Iu. G. Saushkin* may serve as an example. The work of the department is organized under six major subdivisions, each with a large workroom. Typically each of the workrooms has four to six desks, a small working collection of books on the particular area, and maps. In the workroom on Siberia and the Far East, under the direction of *I. V. Nikol'skii*, I was shown the materials for a research project on the agricultural area northwest of Irkutsk, where there are about 200 collective farms. The study mapped in detail the distribution of cropland and forests, soil, vegetation, slopes, and types of farms. In another workroom *S. A. Kovalov*, a member of the committee advising on the census planned for January, 1959, displayed materials from a study of the evolution of rural settlement in the European part of the Soviet Union based on the censuses of 1897 and 1926 (the 1939 census was not published in detail). Another study, supported financially by the Stalingrad hydroelectric and irrigation project, investigated the possible development of agriculture by irrigation in the area between Stalingrad and the Caspian Sea, west of the Volga River.

The research program of the Geography Faculty is more highly centralized and organized than in a typical American or German university in the sense that much of the staff works on specific problems in accordance with a state plan.

The scientific work is under the general direction of *Tatyana Vasilevna Zvonkova*, who was elected as head of the scientific council. Work is proceeding on four problems:

- (1) The regionalization of the USSR (about 40 people), (a) Physical geographical regionalization, under *N. A. Gvodetskii*. *M. A. Glazovskaia* is currently working on physical geographic regions of the non-chernozem areas. (b) Economic geography: the network of economic regions; some 70 have been set up. Under *IU. G. Saushkin* and Docent *Kalashnikova*. (c) Distribution of manufacturing (a task given

to the faculty by Gosplan). (d) Study of the Karaganda area in Kazakhstan, a task assigned by the government. Professor *P. N. Stepanov* and Professor *K. A. Salishchev* are working on this.

(2) Methods of geographical research for agricultural purposes. Study of the quantity and quality of land. This year studies are on: (a) Riazan' Oblast, which is nearby; (b) Kustanai Oblast (area of virgin lands); and (c) Khanty-Mansiiskii National Okrug, lower Ob R. This task has been assigned by the Ministry of Agriculture. This work is under the direction of Senior Scientific Workers *Kiril Vlacheslavovich Zvorykin* and *Andrei Nikolaevich Rakitnikov*.

(3) Snow and ice. This is undertaken in connection with the International Geophysical Year and is under the direction of Professor *G. K. Tushinskii*. Work in four areas: (a) El'brus, (b) Khibiny, (c) Pamir, and (d) Antarctica. Funds for this come directly from the state.

(4) Teaching aids.

Students. There are 1,000 full-time day students in the 5-year geography course, 817 evening students, and 55 graduate students. The number getting degrees in geography (diploma) in 1957 was 193. The number taking part in expeditions that year was 140. Students are heads of some expeditions. Students on scholarships get 290 rubles a month the first year, and 400 rubles a month in the fifth year; excellent students get a 25 per cent bonus. Students get 700—1000 rubles a month for summer work on expeditions. This they utilize for some of the expenses in winter. The expeditions may last three to three and a half months, or even up to six. Some students are in Antarctica for a year; they are on leave from studies.

Expeditions. Among expeditions this year are (1) to the South Urals to study the geochemistry of the landscape; (2) to Kustanai; (3) to the Amur to study minerals, such as gold, water supply, and agriculture. — There are many small exploratory expeditions.

b. Leningrad University

(Geograficheskii Fakul'tet Leningradskogo Universiteta)

60 Krasnaia Ulitsa, Leningrad

The Geography Faculty occupies an old building some distance from the main university. The dean is *V. Kh. Buinitskii*, an oceanographer.

There are eight chairs (departments), as follows:

- (1) physical geography *S. V. Kalesnik*
- (2) economic geography *V. M. Chetyrkin*, docents *L. P. Altmann*, *Chertov*
- (3) geomorphology *S. S. Shul'ts*
- (4) hydrology of land *L. K. Davydov*
- (5) climatology *O. A. Drozdov*
- (6) oceanography *V. Kh. Buinitskii*
- (7) botanical geography *A. A. Korchagin*
- (8) cartography *Zvonarev*.

History of geographical knowledge is taught by *Nevski*. Altogether there are 8 chairs of geography, 12 professors, about 50 staff members, and 500 students.

c. T. V. Shevchenko State University of Kiev
Geograficheskii Fakul'tet Kievskogo
Gosudarstvennogo
Universiteta Imeni T. V. Shevchenko)
Vladimirskaia Ulitsa 58, Kiev, Ukraine

Staff:

Aleksandr Mifodievich Marinich, Dean of the Geographical Faculty, Professor of Physical Geography (geomorphology).

P. K. Zamorii, Professor of Geomorphology and president of the Ukrainian Section of Geographical Society of the Soviet-Union.

Andrei Semeonovich Kharchenko, Professor of Cartography, secretary of the Ukrainian Section of the Geographical Society of the Soviet Union.

Viktor Aleksandrovich Nazarov, Professor of Hydrology

Ivan Kerievich Polovko, Professor of Climatology

Andrei Andreevich Zhavzharov, Professor of Physical Geography (USSR and foreign)

Piatly Konstantin Petrovich, Economic Geography

Olia Vasimevnaia Porivokina, Docent for Physical Geography

Andrei Petrovich Zalovskii, Docent for Cartography and Geodesy (surveying)

Feodor Mikhailovich Machikhin, Professor of Economic Geography (mainly foreign).

Mefodi Ivanovich Gliko, Physical Geography.

The Geographical Faculty of the Kiev State University has a staff of 50, composed of 12 professors with doctor's degrees, 6 assistants, and the rest docents or candidates. The faculty has 550 full-time students and 700 part-time students. Sixty full-time students and 40 part-time students will get diplomas this year. The course is a regular 5-year one. There are also at the University aspirants who have their diplomas and are working for candidate degrees in economic geography, cartography, climatology, and geomorphology. The University has the right to grant doctor's degrees and has awarded 12.

Publications. (1) University. *Naukovi Zapiski. Zbirnik geografichnogo fakul'tetu*. It dates from before the war. Again published since 1945 (i. e., for twelve years) at least one a year, sometimes two to three a year. In 1956 there were two numbers plus a large monographic study of the Poles'e in the North Ukraine, a description of natural conditions and agriculture. In 1957 a monograph was to be published on the forest steppe zone of the Ukraine. (2) *Geograficheskoe Obshchestvo SSSR. Ukrainskii filial. Geograficheskii Sbornik* (three numbers have been published).

Field training. In the first year students get three weeks' work in the suburbs of Kiev in general methods of field observation. The field station at Kanev, 110 km. south of Kiev on the Dnepr River, is used for work in the summer of the second year. Students from geography, geology, botany, zoology, and entomology work here in the field. There are permanent buildings, including a hostel and a house for the caretakers. In the summer of the second year, geography students go here for one month to learn field work in an area with a variety of natural conditions. A

second 30 days in the second year is spent in field work in the Crimea, moving over a wide territory.

For the third summer, the students work in their special field, specializing generally in either economic geography or in physical geography; this lasts about ten weeks. In 1957 this group will spend some time in Moscow examining materials in museums and exhibitions, then go to the Urals for some work, then to Central Asia, then to the Caucasus for 10—12 days for more specialized work, then to the Black Sea, and Odessa, and return to Kiev. Students in climatology, hydrology, cartography, and geomorphology all do special work in all parts of the Soviet Union; many join expeditions of the Academy of Sciences of the USSR.

In the fourth summer, students gather material for their diploma thesis. They work in all parts of the USSR.

Languages. The work is generally taught in Ukrainian. Some lectures are in Russian. Publication is mostly in Ukrainian, some also in Russian.

3. Pedagogical Institutes

Of the 66 pedagogical institutes I visited only two:

a. The Herzen Pedagogical Institute

(Pedagogicheskii Institut Imeni Gerzena)
Moika 48, Leningrad

Staff:

Dean and Professor for economic geography:
Boris Nikolaevich Semevskii

Docents in economic geography:
Lidii Ivanovna Bonifat'eva
Edvard V. Knobelsdorf (USSR, cities)

Assistants:
Aleksei Dmitrievich Iurov
Mrs. Elena Semeonova Efimova

Professors of physical geography:
A. D. Gozhev (general, Africa)
N. N. Ivanov (climatology, has worked in India, precipitation)
Arkhangel'skii (Siberia)

Docents:
L. P. Shubaev (physical geography)
Mrs. Matveeva (is in charge of work in methods of teaching geography).

Students. There are 250 day students, 220 evening, and 300 or 400 correspondence students in geography.

Course of study. In the past a four-year course existed, but it is to become a five-year course this year (to be the same as the University). If the first two years students are in class or supervised laboratory 36 hours a week, 6 hours a day for six days each week (Monday through Saturday). In the third year 30 hours, and in the fourth year 24 hours. Next year it is planned to reduce course hours in the first two years to 30, with some reduction in other years.

The curriculum is divided into three parts: I. Pedagogy, in which there are courses of lectures on (1) pedagogy proper, (2) history of education, (3) meth-

ods of teaching geography, (4) psychology, and (5) school hygiene; II. social subjects (1) history of the Communist Party, (2) general philosophy, (3) political economy; and III. special subjects taken by geography students: (1) general physical geography, (2) geology, (3) botany, (4) zoology, (5) astronomy, (6) physical geography of the USSR, (7) physical geography of the world, (8) economic geography of the USSR, (9) economic geography of foreign countries (Professor Semevskii is preparing for publication his lectures in this course), (10) foreign language, and (11) visual aids (motion pictures; collections for use of schools are in the cities, but films can be ordered readily from a catalogue a day ahead of time; use of apparatus, etc.). Advanced courses in economic geography consists of two courses: (1) economic geography of the world, with 20 hours of lectures on economic geography in general and 190 hours on foreign countries; (2) economic geography of the USSR, 240 hours of lectures; this is divided into two parts: (a) general economic geography of the USSR, and (b) economic regions.

Geography in the elementary and secondary schools extends from years 5 through 9. There is some preparatory work in year 4 concerned with maps. Year: 4: preparatory work on maps; 5: general physical; 6: the continents; 7: physical geography of the USSR; 8: economic geography, foreign; 9: economic geography, USSR (the courses of years 8 and 9 in the past have been reversed).

b. Lenin Pedagogical Institute, Moscow

(Moskovskii Gosudarstvennyi Pedagogicheskii Institut Imeni V. I. Lenina)

Malaia Pirogovskaia 1, Moscow

The Institute is mainly for teachers in rural schools. Most of the students go to rural areas where there is a shortage. There is another institute to train teachers for Moscow (Gorodskoe Pedagogicheskii Institut imeni Potemkina).

The courses last five years. Possible teachers need two specialities, rather than just one, often geography and biology. The same is true in other faculties.

Practical work for students of geography at Pavlovskaya Sloboda, 40 km. away, at end of second and third year, one summer for geography, one for biology. Fourth year on expedition (Kaluga District) to study agriculture. Practical work is given for students in botany, geography, zoology, geology. Students then teach laboratory work in middle schools and do work for collective farms. 92 % of students are women, 5 to 7 % drop out, 15 to 20 % get married.

Dean of the Geographical Faculty: *Margarita Grigor'evna Soloveva* (work on foreign areas).

Professor *Nikolai Ivanovich Lialikov*, who wrote the new economic geography of the USSR for secondary schools (year 9) to replace Baranskii.

Professor *Vadim Viacheslavovich Pokshishevskii*.

There are 350 students in geography. (about the same size as other faculties.)

4. *Economics Institute of Gosplan*
(Nauchno-Issledovatel'ski Ekonomicheskii
Institut Gosplana)

Pervie Khoroshevskii Proezd, Dom 3A,
Moscow D-284

The Institute has worked on regionalization and distribution of manufacturing. In 1938 Gosplan regions were delineated. These were often later confirmed for planning purposes. There are now 25 people in the section of regionalization and distribution of manufacturing. Work continues on methods of regionalization and on a proper distribution of manufacturing.

Nine separate groups are working on possible regions for planning. These include groups (1) at the University of Leningrad under V. N. *Chetyrkin* (economic geography), (2) at the University of Moscow under P. N. *Stepanov* (economic geography of the USSR), (3) at the Institute of Geography of the Academy of Sciences of the USSR, (4) at the Institute for Complex Transport of the Academy of Sciences, (5) at the Energy Institute, (6) at the Institute of Economics of the Academy of Sciences under *Vasiutin* and *Feigin*, and (7) at the Agricultural Institute. The Director of Gosplan is head of the commission to recommend planning regions.

5. *All-Union Geographical Society*
(Vsesoiuznoe Geograficheskoe Obshchestvo)

Pereulok Grivtsova 12a, Leningrad

I was received by a group including Academician E. N. *Pavlovskii*, President of the Society, Professor S. V. *Kalesnik*, a vice-president, and one of the delegates at the 18th International Geographical Congress and O. A. *Konstantinov*, a specialist on urban geography.

The Society has about 7,000 members, mostly professionally trained geographers or workers in related fields. The Society has nearly 100 branches scattered throughout the entire Soviet Union. Some of these, such as the one in Moscow, have important programs and publications. The Society is now affiliated with the Academy of Sciences of the USSR. It is governed by a council elected by secret ballot by delegates, one delegate to each 25 members. An election is held annually.

A general geographical congress is planned for each five years. The second congress was held in 1955 in Moscow; the first had been held in Leningrad.

The Society maintains an active lecture program. The building of the Society has two large lecture halls, one holding 400 and the other 150; both are heavily utilized. During the month of May, 1957, the posted printed schedule announced 7 general popular lectures (with slides and motion pictures) and 24 smaller meetings of specialized sections or commissions. All are free.

The library, reported to be the best geographical repository in the Soviet Union, has 300,000 volumes; perhaps half of these are on the Soviet Union. It has a small reading room and a battery of different card

catalogues, including, for example, one catalogue which is a regional bibliography on the Soviet Union and another catalogue which is an author index of journal articles by soviet authors. There are also a small map library and a large manuscript collection of explorers' notebooks.

The journal of the Society (*Izvestiia Vsesoiuznogo Geograficheskogo Obshchestva*) is the oldest geographical periodical published in Russian.

EINE KARTEI DEUTSCHER ORTSNAMEN
MIT RÜCKWÄRTS-ALPHABET

S. Rösch

Mit 4 Abbildungen

A Card Index of German Place Names

Summary: The purpose of this article is to inform those interested about the establishment of a card index of all German place names. Its basis is the „Ortsnummernverzeichnis des deutschen Reiches“ (edition B, complete list edited by the A. W. V., Leipzig, 1928, together with seven supplements, 1929—1935), which means that the catalogue contains all names as they existed at that period and within the then boundaries of Germany. In contrast to the former work, which comprises an alphabetical as well as a numbered part, this index, consisting of about 66,000 cards, is arranged in alphabetical order according to the *last* letter of the name, and then within each of these groups according to the last but one letter and so forth. Each place name is recorded on a separate card on which the place numbers of all places of the same name are also given. This arrangement facilitates the tackling of a number of problems in a new way. On the one hand it makes it easier to find the old forms of place names since experience shows that in those cases where place names have changed fairly often it have mostly been the first parts of the names which suffered and less frequently the last: e. g. Biebrich and Wiesbaden-Biebrich, Wimpfen and Bad Wimpfen, Ebersbach and Strassebersbach or Bergebersbach, etc.; this aspect was the reason for establishing the index in the way chosen. On the other hand, this arrangement makes the catalogue an almost inexhaustible source for toponymists and geographers who can now easily trace all place names with the same terminal syllables (like -husen, -rode, -deich, -torf, -moor, -by, etc.), and investigate their regional distribution. For a study like that the place numbers are a further valuable help. In the article a few examples of that kind of work are given and results presented descriptively and diagrammatically. In addition a few statistical considerations are appended which resulted from the counting out of the cards.

The card index is housed in 30 boxes and is at present in the historical archive of the city of Wetzlar. Research workers are invited to use it on the premises or to write there for information; in the latter case they are asked to enclose return postage and to limit their enquiries to points that can be answered briefly, since lack of time and personnel make it impossible to deal with anything more complicated.

Die folgenden Darlegungen befassen sich mit Problemen der angewandten Dokumentation. Daß sie dabei altbewährte Hilfsmittel mit neuartigen Gedanken verbinden, rechtfertigt vielleicht ihre Veröffentlichung an dieser Stelle, obwohl die Nutznießer selbst wohl weniger zu den Lesern dieser Zeitschrift gehören.