GUSTAF EYVIND SUCKSDORFF

1899—1955

by

J. KERÄNEN

On October 19, 1955, the death occurred of Dr. EYVIND SUCKSDORFF, the geophysicist of the Meteorological Central Office and lecturer in geophysics at the University of Helsinki.

E. SUCKSDORFF was born at Vesanto in Central Finland on April 7, 1899. His parents were JEAN SUCKSDORFF, the pharmacist, and AINA MARIA LÖNN. In 1903, the family moved to Jääski, on the shore of the river Vuoksi and remained there. The son attended the secondary school at Viipuri. In the winter of 1918 he participated in the war of independence in the front sector of his home district. He matriculated at the university in 1918 and at first studied at the Institute of Technology, Helsinki, but became interested in astronomy. In autumn 1924 he began to study at the new university of Turku, where the famous astronomer and geodesist, Professor YRJÖ VÄISÄLÄ, was his teacher.

The Observatory Committee of the Suomalainen Tiedeakatemia (the Finnish Academy of Science and Letters) elected SUCKSDORFF in autumn 1927 to the post of observer in-charge at the Magnetic Observatory at Sodankylä. In this position a new scientific career opened for him, and geomagnetism and geophysics became his lifework.

In the preceding years the observatory was visited by Danish and Norwegian geophysicists and physicists, which formed the basis for a long collaboration with the colleagues in these countries and also in Sweden. At the suggestion of Professor CARL STÖRMER, SUCKSDORFF began to measure the altitudes of the aurora by the photographic method at the observatory and at an auxiliary station. In this connection the visual observations of different auroral features were intensified and a simple method for the measurement of the elevation angle for quiet arcs and coronas was established. Such observations were later made over a long period at a number of stations, especially in Lapland, but also in other parts of Finland. The photographic work could only be performed for short periods at intervals.

When, in 1930, the International Commission for the Polar Year 1932—1933 recognized the observatory at Sodankylä as a suitable training place for observers at polar stations, it became necessary to improve and enlarge the work and to include new branches of geophysics in the programme of the observatory. SUCKSDORFF's capacity for organizing and finding a suitable solution was clearly seen in this connection. During the Polar Year, the observatory could maintain a wide programme of investigations, as follows:

1. Complete geomagnetic station with quick-run registration. 2. Earth-current registration. 3. Registration and observation of the atmospheric electric potential gradient. 4. Total solar and diffuse radiation, total light radiation with photoelectric cell, cooling quantity with frigonimeter. 5. Visual auroral observation. 6. Complete meteorological station of first rank. The radiationprogramme and meteorological observations were organized in cooperation with the University of Helsinki and the Meteorological Central Office. The observatory was able to carry out this ambitious programme successfully under SUCKSDORFF's energetic leadership. After the end of the Polar Year some aspects of the radiation work were discontinued.

Foreign magneticians and geophysicists began to visit the observatory even before the Polar Year and worked there for a time. A profitable collaboration developed with them and especially with the Danish colleagues, Dr. DAN LA COUR, and with his coworkers Dr. J. OLSEN and Dr.

V. LAURSEN. The new Danish instruments, i.e. magnetometers QHM for horizontal intensity, and BM, BMZ for vertical intensity, variometers and recording instruments were experimented with.

At the same time besides the current work of preparing the geomagnetic material, SUCKSDORFF carried on scientific researches of his own. He studied the occurrence of small pulsations and oscillations which clearly appear in the magnetic quick-run records and published two reports on this problem. Relatively late he specialized in research on geomagnetic activity which resulted in 1942 in a comprehensive thesis for a doctorate: Die Erdmagnetische Aktivität in Sodankylä in den Jahren 1914—34. The work contains a detailed analysis of the hourly variation of the geomagnetic vertical intensity, unique of its kind. There was found to be a distinct tendency for magnetically disturbed days and likewise for quiet days, to recur after the lapse of 27 days or one solar rotation. Later he made some additions to this work and in 1955 published the continuation: »Die Erdmagnetischen Aktivitätszahlen AZ von Sodankylä in den Jahren 1935—1944», to the end of his time at Sodankylä.

In the war years 1939—44 SUCKSDORFF was able to remain in charge of the Geophysical Observatory. When, in September, 1944, at the end of the war operations, the population of Lapland and with it the staff of the observatory had to be evacuated »only the major part of the unpublished material and the important observation instruments could be rescued, and consequently at the total demolition of the observatory in October by the German forces all buildings and recording instruments, library and archives were destroyed». And SUCKSDORFF and his family lost their home with much property.

After the Finnish Academy had decided to rebuild the observatory, SUCKSDORFF was most active in helping the observatory committee with this task. He procured from his aunt, the architect VIVI LÖNN, a building plan in which he could benefit from his long experience. In December, 1945, he installed the registration instruments at the new magnetic observatory which could in a modest way begin work on January 1, 1946. When, in 1946, SUCKSDORFF was elected secretary of the observatory committee, he worked with indefatigable interest for the improvement of the observatory. He published the yearbooks, »Ergebnisse der magnetischen Beobachtungen des Observatoriums zu Sodankylä» throughout the time of his leadership there, i.e. the years 1927—1944.

In 1945 SUCKSDORFF was appointed geophysicist to the Meteorological Central Office, in charge of the geomagnetic work which included at this

time the geomagnetic mapping of the country and the surrounding areas of the Baltic Sea and its Gulfs. He and his son CHRISTIAN re-measured a number of magnetic secular stations over a period of many years. He was also the initiator and leader in the foundation of a new geomagnetic observatory in South Finland, which was erected in 1951 at Nurmijärvi. In this work, moreover he put into practice his experience in such a manner that the establishment and work of the observatory has aroused attention even abroad. The first yearbook of the observatory at Nurmijärvi was nearly ready at the time of his death. As Finnish observer Dr. SUCKSDORFF took part in the geomagnetic mapping of the Gulf of Bothnia, a joint undertaking of the Swedish Royal Hydrographic Service (Kungliga Sjökarteverket) and our Meteorological Central Office in 1939 and 1950.

SUCKSDORFF's latest studies deal with variation of computed electric currents in the upper atmosphere, influence of the moon and inner planets on the geomagnetic activity and aurora formes. The activity shows a distinct minimum value during the new moon and also a slight decrease at times of the inferior conjunction of the inner planets, which suggests the existence of magnetic fields round these bodies.

In his scientific official work SUCKSDORFF always enjoyed the devoted and able assistance of his wife, and latterly of his son CHRISTIAN.

Since 1949 Dr. SUCKSDORFF was university lecturer in geophysics at Helsinki and also taught geomagnetism. He was an active Finnish delegate in the International Association of Geomagnetism and Aeronomy (earlier Association of Terrestrial Magnetism and Electricity) of IUGG and participated at the meetings in 1930, 1948, 1951 and 1954. At the last meeting he was elected a member of four Committees i.e. Aurora and Airglow, Comparisons of Magnetic Standards, Characterization of Magnetic Activity, Rapid Variations and Earth Currents. In the Finnish National Committee of IUGG he was secretary from 1947. In his official position he co-operated the whole time in the magnetic comparison of the Scandinavian countries and Finland. In this category is to be included his membership as secretary of the Finnish National Committee for the International Geophysical Year 1957—58. He was also a member of the Section of Sciences of the Finnish Academy of Science and Letters and of the Geographical Society of Finland.

Dr. SUCKSDORFF's career during 28 years as able leader of the old Geophysical observatory at Sodankylä, as skilful expert in the establishment and organization of the new magnetic observatories at Sodankylä and Nurmijärvi, as experienced chief of the geomagnetic work in the Meteorolo-

gical Central Office, his co-operation in international committees and meetings and his valuable scientific publications give evidence of his lasting energy, his good ability to concentrate upon scientific problems and his deep sense of duty in the execution of tasks.

Besides the above-mentioned activities Dr. SUCKSDORFF maintained a great interest in popular Astronomy. He was one of the earliest members of the Finnish society of amateur astronomers, Ursa, and its chairman from 1947 and member of some foreign societies. Some popular articles and translations of the writings of Eddington and Jeans give evidence of this enthusiasm.

In his parents'home Dr. SUCKSDORFF had learned a love of botany and horticulture. In Sodankylä he built a greenhouse and wrote a valuable popular guidebook for this hobby »Harrastajan kasvihuone» (3 editions) and a Swedish translation of it. Among his private interests may be mentioned his love of music, literature, aquaria and photography.

Dr. EYVIND SUCKSDORFF came in contact and collaboration with great numbers of scientists, colleagues and fellow citizens in his own country and abroad. With his cordial personality he always inspired friendship. He will be deeply missed by his fellow geomagneticians, his coworkers on the staff of the Meteorological Central Office and his friends.