



HEIKKI JÄRNEFELT

Heikki Järnefelt

In Memoriam

by

K. J. PURASJOKI

On October 22, 1963, Professor HEIKKI ARVID JÄRNEFELT passed away in Helsinki. He was one of the internationally best known limnologists of the older generation. An ardent scientist, right up to the end he had been engaged in active scientific work.

HEIKKI JÄRNEFELT was born in the commune of Muuruvesi, in Central Finland on June 23, 1891. His father was a skilful portrait and landscape painter and the family has become famous because of its gifted representatives in different fields not only of art, but also of science. During his youth and also later, HEIKKI JÄRNEFELT spent his summers in southern Finland, at the family's summer home on the shore of Lake Tuusulanjärvi. Here, by the water, his interest in water organisms developed early, and Lake Tuusulanjärvi itself later formed one of the main objects of his research. On finishing school in 1909, JÄRNEFELT began to study biological subjects at the University of Helsinki. His chief subject was zoology. In 1914 HEIKKI JÄRNEFELT took the degree of Master of Arts. Among his teachers the most important was Professor K. M. LEVANDER, the well-known hydrobiologist and plankton investigator who, with his advice and instruction, encouraged the young scientist. In this context we must not forget the fishery biologist Dr. NILS HAGMAN, who seems greatly to have influenced his younger colleague.

JÄRNEFELT's interest in hydrobiology is clearly evident from his very first publications (1—8), which appeared one after another in rapid succession after he had received his first academic degree. He then began to work on his dissertation. However, this work was for some time interrupted by the War of Independence in Finland, which was contemporary with the Great War. When peace returned, JÄRNEFELT still served as an active officer but at the same time he also continued his research work. His doctoral thesis (15) was published at the end of 1921 and in the following summer he became Lic. phil.

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and attended the graduation ceremony in the spring of 1923. When writing his thesis, JÄRNEFELT was already in the service of the Fishery Association of Finland (1919—1922), publishing many short papers on fishery economics (11—14). The thesis and the information preceding it (9) were also chiefly concerned with fishery economics.

The event that turned JÄRNEFELT's research and teaching work to limnology was the international congress at Kiel in 1922, when the purpose and scope of this hitherto still indefinite branch of science were defined. At this congress he was elected Finland's representative of the newly founded International Association of Theoretical and Applied Limnology. The fruitful influence of this first limnological congress can immediately be seen in JÄRNEFELT's research work (16, 17). In the same way it affected his teaching. For in the spring of 1924 JÄRNEFELT was appointed docent in limnology at the University of Helsinki. Still he was not able wholly to devote himself to the scientific field he had chosen. For economic reasons he had to work as a teacher of biology and geography in secondary schools in Helsinki. With unflagging zeal, JÄRNEFELT continued to publish the results of his investigations, and in 1925 the first part (23) of his famous series of researches 'Zur Limnologie einiger Gewässer Finnlands' appeared. The final, twentieth part (!) had reached the stage of a printer's proof when JÄRNEFELT died. Some of his papers dealing with the biological influence of waste water also belonged to this period (22, 24). On his appointment as assistant at the Zoological Institute in 1928, JÄRNEFELT came into closer connexion than before with the University of Helsinki. Besides his basic research he also began to devote attention to applied limnology in his papers. In the latter group can be included the text-book 'The basis for production in our fishing waters' (28) and numerous other papers (29, 36, 39, 46, 50, 54, 63, 69). Investigations on production biology still made up the greater part of JÄRNEFELT's publications. In the series 'Zur Limnologie etc.', in which both plankton production and the production of the bottom fauna in the lakes of Finland is worked out, a total of 14 parts had appeared (23, 25—27, 31—33, 38, 41, 42, 47, 55—57) by the end of the 1930's. In many other papers JÄRNEFELT also dealt with questions of production biology, especially how production depends on ecological factors. His investigations on rock pools (65, 66) may be mentioned among these publications.

In the spring of 1939, JÄRNEFELT was appointed Personal Extraordinary Professor in Applied Limnology at the University of Helsinki. Eagerly he set to work on his new tasks: to create the Limnological Institute and to educate future limnologists. He was still only beginning when the Second World War broke out and he devoted himself to the officer's mission. Only when the war was

over was he again able to continue his limnological work both as a scientist and as a university teacher. Proof of his former activity is afforded by the papers following one upon another, some of which were again published in the series 'Zur Limnologie etc.' (79, 86—88, 101—102), others in the 'Proceedings' of the International Association of Limnology (71, 72, 74, 85, 94, 98), yet others in this journal (77, 84, 91), etc. JÄRNEFELT'S teaching also began to bear fruit. Before the war he was in practice the only pure limnologically orientated hydrobiologist in his country. Now he could see around him an ever expanding group of young limnologists whom Finland, with its many lakes and rapidly developing industry, needs.

The number of JÄRNEFELT'S papers (103) is a proof of his industry. In his research work he dealt with many of the main problems of Limnology, but the chief object in his investigations was quantitative plankton analysis. This work demands of those who undertake it a close acquaintance with the plankton organisms. Without reserve it can be stated that JÄRNEFELT had an extraordinarily wide knowledge of plankton. This will be realized on perusal of part 16 in the series 'Zur Limnologie etc.' (86), in which the author works out the relation between the plankton organisms and the level of trophy. The material for this paper comprised plankton from 331 lakes in Finland. The same fact is also shown by the guide to the plankton (100) intended for Finnish conditions, which was written to facilitate acquaintance with plankton for students and practical limnologists.

On retiring in 1961 at the age of 70, JÄRNEFELT could observe with satisfaction that a solid basis for his successor's work had been created. His Personal Professorship had been changed into a real Chair of Limnology.

Beside his official work JÄRNEFELT undertook numerous voluntary jobs. To recall them all will not be necessary in this context. But it can be mentioned that from 1950 on he was a member of the editorial staff of 'Hydrobiologia'. In his native country he took part in the foundation of a national limnological association and was its chairman for many years. Formerly he took an active part in the direction of the Fishery Foundation of Finland.

JÄRNEFELT was one of the foremost figures in the International Society of Limnology. In 1956 he was elected Vice-chairman of the International Committee and at the 15th Congress in Madison, 1962, he was awarded the Naumann silver medal in appreciation of his work on behalf of limnology.

HEIKKI JÄRNEFELT was by nature friendly and unassuming. To him research work was everything in the world.

LIST OF PUBLICATIONS

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