to further investigations in this difficult interdisciplinary area.

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OBITUARIES

Prof. W. H. Pearsall, F.R.S.

PROF. W. H. PEARSALL, who died on October 14 at the age of seventy-three, was a versatile botanist and a man of whom it was said that he had become a legend in his own lifetime.

He was educated at Ulverston Grammar School and the University of Manchester. After service in the First World War he joined the staff of the University of Leeds, eventually becoming reader in botany. In 1938 he was appointed professor of botany in the University of Sheffield. From 1944 until his retirement he was Quain professor of botany in University College, London. He continued his association with the College as emeritus professor and honorary research associate. In 1940 he was elected a Fellow of the Royal Society, which he served in many ways, including two terms on its Council. In 1963 he was awarded the Linnean Society's Gold Medal.

Pearsall's father was an amateur botanist and ecologist and a lover of the Lake District. It was during holidays there that Pearsall began to acquire his unique knowledge of the district. He and his father began the study of the aquatic macrophytes of Esthwaite Water and other lakes in 1913. After the War they made a thorough investigation of the planktonic algae. Pearsall was also mapping the vegetation of the fen at the head of Esthwaite Water. More than forty years later he made his last, unpublished map. The North Fen, now a Nature Reserve, is the best-known fen of its kind in Britain. From these investigations came a series of classical papers about the development of the English Lakes and their vegetation, together with his interest in the chemistry of underwater soils and post-glacial history. Meanwhile he was also carrying out laboratory investigations on plant physiology which were both valuable in themselves and threw light on the ecology of the plants concerned. He did notable work on the growth of *Chlorella*, which he also used as an ecological tool to elucidate the growth of algae in lakes. The work he did on the physiology and ecology of aquatic plants has been a constant source of inspiration to workers at the Freshwater Biological Association and elsewhere.

Pearsall edited the *Journal of Ecology* for several years, and, at the time of his death, was still one of the editors of the *Annals of Botany*. He was also a trustee of the Society of Experimental Botany. He exerted special influence on the growth of the Freshwater Biological Association, the Nature Conservancy and the Institute of Biology.

A founder member of the Freshwater Biological Association, he acted as honorary director during 1931–37 and chairman of Council from 1954 onwards. Few have done as much as he did to bring the Association from its humble birth in a period of economic depression to its present position as one of the most famous bodies of its kind in the world. His influence on the members of the staff extended into every aspect of their work, including the ecology of fish, in which, perhaps, he had a special interest from his love of fishing. In his artistic appreciation of Nature—he was a good painter in water-colours—lay part of his wonderful insight into the broader aspects of ecology. He was a natural choice as a Charter Member of the Nature Conservancy. The unique position this body holds in the world to-day is, to a large extent, the result of the untiring efforts he made on its behalf. Characteristically his influence was felt both in the sphere of high policy and among the younger scientists who joined the Conservancy. He also made a notable contribution to the protection of wild life in Africa by his *Report on the Ecological Survey of the Serengeti National Park, Tanganyika* (1957). His influence on the Institute of Biology, of which he was chairman in 1957–58, was also profound, while he was the first vice-president of the Council for Nature. He was consulted officially on innumerable biological matters, but it may not be generally known how often he was also consulted unofficially.

Pearsall was the most understanding and generous of friends. He was always good company, and many will remember with affection the twinkle in his blue eyes which heralded the start of one of his stories. To be with him in the field, especially on the hills he loved so much, was pure joy. Something of this can be felt when reading his *Mountains and Moorlands* (1949). His influence on younger workers was immense, notably in the period when he was at University College, London. He could be obstinate, even exasperating; yet one of his most wonderful characteristics was that it was out of disagreement that some of the most fruitful researches of his colleagues were likely to come—much to his delight. Their regard for him grew all the time, irrespective of whether they agreed with his ideas or not. Moreover, his hypotheses were by no means always incorrect; they might equally be too novel for people to appreciate their value at first.

It is no wonder that Pearsall was so highly respected and widely loved, or that he will be so sorely missed. His wife and two sons who survive him will receive sincere sympathy in their loss from a host of friends and colleagues.

J. W. G. LUND

Prof. Vincent Nechvíle

PROF. V. NECHVÍLE, whose death was reported in July of last year, was born in Prague on April 10, 1890. Like many other astronomers of his generation, Prof. Nechvíle entered our science as a mathematician. Soon after his doctorate at the Charles University (as a pupil and later assistant of the late Prof. Karel Petr), his career was interrupted by four years of the First World War, most of

which Nechvíle—the gentlest of persons—spent in the uniform of a cavalry officer. His scientific career did not really blossom out until, in the post-war decade, a grant from the French Government enabled him to spend several years at the Observatoire National de Paris, for it was there that Nechvíle developed all his interests, sympathies, and inclinations to which he remained faithful throughout his scientific life.

Under the influence of Prof. Andoyer, Nechvíle's mathematical interests turned to the restricted problem of three bodies; and he was the author of the well-known transformation of co-ordinates in the elliptic case (that is, when the two finite masses describe elliptic orbits) which has become the basis of most subsequent work on this subject. Collaboration with George Willis Ritchey (the creator of the large reflectors at Mount Wilson, who was also working in Paris at that time) led Nechvíle to study geometrical optics. His work on the theory of the Ritchey-Chrétien catoptric systems constitutes a fundamental contribution to the subject (alas, but little known, as most of it was published in Czech).

However, Nechvíle's principal work at Paris was in the field of stellar proper motions. In the 1880's, the Henri brothers secured more than a hundred negatives with their prototype of the 'normal astrograph' of the *Carte du Ciel*, with sufficiently long exposures to record the positions of stars down to the 14th magnitude. At the encouragement of Prof. Deslandres, then director of the Paris Observatory, Nechvíle repeated these photographs with the same instrument after a time lapse of more than 40 years; and from the combined material derived proper motions of almost 3,800 faint stars in certain areas distributed widely all over the sky—probably the largest homogeneous measurements of proper motions of faint stars then available.

This work, which earned Nechvíle the Lalande Prize of the French Academy of Sciences, paved the way for an academic career at home. On his return to Prague in 1930, Nechvíle became docent of astronomy at Charles University (followed by a recommendation to honorary professorship in 1939), which together with the position of astronomer at the Czechoslovak National Observatory, he held until his retirement in 1960. During his years in Prague, Nechvíle's scientific interests continued in the same fields; but increased teaching and administrative duties at the Observatory (Nechvíle became acting director during a part of the difficult years of the Second World War) left him but little time for research. This was especially true in post-war years, which for him became a time of increasing solitude. He never married (twice death intervened to deprive him of the prospective companions); his family dispersed (his only brother found his final resting place in England), and so did many of his pupils—of whom I had the privilege of being one. He died in Prague last summer, aged seventy-four, alone, so that even the exact day when death claimed him remains unknown.

Vincent Nechvíle will be remembered with warm affection by all who knew him, as the type of man—so increasingly rare in these days of competitive life—to whom Horace's epithet "*integer vitae scelerisque purus*" can truly be applied. Always kind and gentle, he instinctively shied away from any situation which could have compromised his principles; it is doubtful if he ever harmed anyone, or made a single enemy in his lifetime. Although of somewhat frail health, his strikingly youthful appearance did not desert him until almost the end; and as such he will live in the memories of all who remember him from the pre-war years.

Zdeněk Kopal

Prof. W. Klüpfel

In the death of Prof. Walther Klüpfel on September 16, 1964, at the age of seventy-six, Germany lost an outstanding geologist.

Klüpfel was born on May 28, 1888, in Heidelberg, Germany. He received his training in geology at the University of Heidelberg, where he graduated as a Ph.D. He was appointed as lecturer in the Geological and Palæontological Institute, University of Giessen, Germany. In later years he held the chair.

During the First World War, Klüpfel was sent to France to work on the water-supply for the German Army. This was resumed during the Second World War, which led him to Jersey, Channel Islands, then occupied by the German Forces. There he remained for three years, during which time he did much valuable field-work in the Island. After the War, he was transferred to the University of Marburg, Germany. The University of Giessen had been heavily bombed.

Since 1921, and in the following years, Klüpfel's research work on volcanic formations convinced him that there is a fundamental difference between Pre-Quaternary volcanoes and Recent and Diluvian volcanoes. His extensive investigations and results were published in Germany. One of these papers was translated into English: "On the Old Type Volcanoes and the New Type Volcanoes and their Origin" (1941).

On his retirement from the chair, with his great devotion to geology, Klüpfel continued his field-work, especially in Jersey. In 1962 he once again visited the island.

Geology to Klüpfel was a whole life's work. He was an exemplary teacher, both in the field and as a lecturer. He was very much liked by his students, although very exacting; he could be most humorous, laughed heartily, and had many sterling qualities. I will remember him with gratitude, affection and admiration.

He died at his home in Giessen, Germany, and is survived by his second wife. M. Casimir

NEWS and VIEWS

The Royal Society: Vice-presidents

The President of the Royal Society, Sir Howard Florey, has appointed the following vice-presidents for the year ending November 30, 1965: Lord Fleck, treasurer of the Royal Society, formerly chairman of Imperial Chemical Industries, Ltd.; Sir William Hodge, physical secretary of the Royal Society, Master of Pembroke College and Lowndean professor of astronomy and geometry in the University of Cambridge; Prof. A. A. Miles, biological secretary of the Royal Society, director of the Lister Institute and professor of experimental pathology in the University of London; Sir Patrick Linstead, foreign secretary of the Royal Society, rector of the Imperial College of Science and Technology; Prof. A. H. Cottrell, Goldsmiths' professor of metallurgy in the University of Cambridge; Prof. B. Katz, professor of biophysics in University College, London.

Director of the Bedford Institute of Oceanography, Dartmouth, Nova Scotia: Dr. William L. Ford

Dr. William L. Ford, chief of personnel at the Canadian Defence Research Board, has been appointed director of the Bedford Institute of Oceanography at Dartmouth, Nova Scotia, and will assume his post on April 1. Formerly Dr. Ford was scientific adviser to the chief of the Naval Staff, and besides being chief of personnel at the Defence Research Board he was a member of the defence research management committee. As director of the Bedford