

W. A. CLEMENS — An Appreciation

Just 40 years ago, W. A. Clemens left his professorial post in the University of Toronto to become the first year-round Director of the Pacific Biological Station of the Biological Board of Canada (now the Fisheries Research Board of Canada Biological Station, Nanaimo, B.C.). There he met the challenge of mustering its first permanent scientific staff and shaped the first program of fisheries research on the Canadian Pacific coast. A host of biologists came under his influence either at Toronto in the early twenties, at the Pacific Biological Station for a period of 16 years, or at the University of British Columbia



for almost a quarter of a century thereafter. Today, they pay tribute to him as teacher, scientist, and man.

Born in Millbank, Ontario, in 1887, he started his professional career as a public school teacher in Haysville at the age of 18. This experience was to his liking and he embarked on University training in 1908 with the ultimate goal of teaching in the high schools of Ontario. Although he subsequently taught in the rural schools of Saskatchewan for three summers to finance his University studies, the plan to teach high school never materialized. Instead, he came under the influence of Toronto's great pioneer zoologists—Professors R. Ramsay Wright, B. A. Bensley, W. H. Piersoll, E. M. Walker, and A. G. Huntsman. When E. M. Walker invited him to the Go-Home Bay Biological Station on Georgian Bay in 1912, his career as a zoologist was determined. Here he carried out his first scientific investigations and, through careful rearing experiments, made substantial contributions to the life histories of many of the mayflies. These were published as a series of papers in the *Canadian Entomologist* (1913) thus commencing his scientific writing which still continues half a century later. These investigations of the mayflies of Georgian Bay led logically to Cornell University and research under James G. Needham.

Following a Cornell doctorate in the spring of 1915 and a year of teaching zoology at the University of Maine, Dr Clemens joined the staff of the Department of Zoology at the University of Toronto where, for eight years — first as lecturer and then as assistant professor — he taught a variety of zoological subjects during the winter and did aquatic research during the summers. A. G. Huntsman introduced him to marine research and the marine fishes at the Atlantic Biological Station during the summer of 1918. Here, Dr Clemens and his wife investigated the muttonfish (*Zoarces anguillaris*) and this led to one of the first Bulletins of the Biological Board of Canada.

In 1920, B. A. Bensley established the Ontario Fisheries Research Laboratory of the University of Toronto. Dr Clemens was in charge of the field work and became the first director of its laboratory on Lake Nipigon. The many institutions entrusted to Dr Clemens have always been in better shape when he left than when he arrived and, during the next four years, fisheries studies in the University of Toronto and the Ontario Fisheries Research Laboratory gained a momentum which was in goodly measure responsible for its subsequent pre-eminent place among the biological institutions of Canada. It is a tribute to his capacity for leadership during this period that the nucleus of his staff in Nanaimo came from his Toronto classes and the summer workers at the Lake Nipigon field station. In the words of one of them "his approach in the field was to let us go and grow on our own, to let us work out our own salvation while quietly suggesting and advising so that one did not go too far astray and with it all there was a continuous interplay between the ideas of junior biologists and the mature scientists. His own work was carefully and systematically organized in the field, the lecture hall, and the laboratory and, in the latter, there was always the patient and deliberate effort to train students in thinking and discovering for themselves. Then, as now, there was the willingness to discuss and explore, to appreciate the attitude and needs of others, and to organize harmony within his own group and with others".

He brought the same philosophy to the Pacific coast when he came to Nanaimo in 1924 — rather uncertain of the wisdom of leaving pleasant and stimulating work in Ontario for the uncertainties of a remote fisheries station which was still largely a summer operation. He tells this story in his own way in the issue of this Journal marking the Fiftieth Anniversary of the founding of the Nanaimo Station.

The Nanaimo Station prospered under Dr Clemens and all of his initial appointees went on to positions of major responsibility in the fisheries work of this country. To this nucleus (R. E. Foerster, A. L. Pritchard, J. L. Hart), he soon added others and several of these came from the ranks of the summer volunteers. This group — some of them university students, others mature scientists from many different universities — found at Departure Bay a stimulating environment to which some were glad to return later on a permanent basis. By present-day research standards the Station had little to offer except space and the rich Pacific coast fauna; the demands for expensive field

work in distant places left little monetary support for the laboratory but Dr Clemens' unbounded and fresh enthusiasm for every aspect of natural history converted many to a lifetime of biological research. There was nothing amateurish in this enthusiasm, for Dr Clemens' philosophy has always been dominated by clear and courageous thinking and the centripetal importance of "a precise formulation of the problem". Much of the affection with which he is regarded by his former staff members in Nanaimo (and by many others in that community) is due to the unfailing courtesy and consideration that he showed to all and to his willingness to do sticky jobs himself while accepting responsibility for the shortcomings of others.

His contribution to fisheries science during this period was first of all that of a director; he selected his men with meticulous care, supported their projects as best he could and gave the quiet stimulation which enabled each of them to make a major contribution to the fishery of his particular concern. His personal research came second but has never been suspended at any time in his life; his numerous contributions to the life-history of the sockeye salmon, partly in collaboration with his wife Lucy, and his "Fishes of the Pacific Coast of Canada", in collaboration with G. V. Wilby, are fruitful results of this period. The latter — now in its second edition — was published after he left Nanaimo but the ground work was done there. It has found a place on more book shelves than any other publication of the Fisheries Research Board of Canada; to a host of the younger fisheries biologists, Dr Clemens' name is synonymous with a well-worn copy of this book.

During the first years of the Nanaimo directorship, Dr Clemens became closely involved in the establishment of the Board's Fisheries Experimental Station at Prince Rupert. He was nominally responsible for it during its first year until D. B. Finn became the Director in 1926 and continued to exert his influence as a member of the Fisheries Research Board of Canada (1943–1957). During the past five years he has again exercised his rare capacity for sparking productive co-operative ventures with the studies of the biochemical changes in the migrating salmon, undertaken jointly by the Board's Technological Research Laboratory in Vancouver (formerly the Fisheries Experimental Station) and the International Pacific Salmon Fisheries Commission.

Dr Clemens met his third great challenge as organizer and institution builder when, in 1940, he became Professor and Head of the Department of Zoology in the University of British Columbia. At the age of 52, this may have beckoned as a more restful environment with a return to the satisfying teaching experiences of earlier years. The decision, however, was taken at the beginning of a great war and an atomic age which soon pushed the universities of Canada into an unexpected period of expansion and growth. The years which followed were the most difficult in Canadian university history and, for Dr Clemens, the most demanding in time and effort. Particularly in the immediate post-war years, long lines of eager men waited their turn for that individual counsel and that scrap of paper on which they carried away a program of studies for the next few years.

His administration of the Department of Zoology was remarkably efficient although imperceptible. Beyond the universal respect which he has in full measure from his colleagues and former students, he will long be remembered at the University for the dynamic part which he played in the establishment of the Ph.D. program and for his imagination in fostering the Institute of Oceanography (established in 1949) and the Institute of Fisheries (established in 1953). He guided both of these through their infancy and is still an active participant in their seminars and a valued adviser on their problems.

The period of Dr Clemens' active headship in the Zoology Department was marked by two other major contributions in the fisheries field. The first of these stemmed from his co-operation with the British Columbia Game Commission (later the Fish and Game Branch, Department of Recreation and Conservation), eventually resulting in joint appointments between the Game Department and the University Department of Zoology. The association was most productive; it provided valuable research training for students and contributed vastly to the biology of British Columbia fish and game. The second was his chairmanship of the Saskatchewan Royal Commission on Fisheries in 1946, leading to a 131-page report on the fisheries problems of that province in 1947.

Dr Clemens continued active teaching in the Department of Zoology for seven years after his retirement in 1953. He assumed the directorships of the Institutes of Oceanography (1953-1958) and Fisheries (1953-1955) in the same year. The Vancouver Public Aquarium opened its doors to the public in the spring of 1956; Dr Clemens became president and spent a very active year organizing committees and making the wise decisions necessary to the success of this operation. A year later, with a pattern established, he retired from yet another venture well on the way to success. These years of "retirement" have also been marked by an active and productive association with the International Pacific Salmon Fisheries Commission — both in an advisory capacity and as scientific investigator.

His published papers and books will long be used by fisheries scientists of the Pacific coast; his influence has extended into the work of the Fisheries Research Board of Canada on both oceans and has more particularly permeated all the fisheries institutions of the west. His teaching has influenced the destinies of many and his personal and scientific philosophy still comes through clearly and sharply to his associates and friends.

This issue of the Journal honours Wilbert A. Clemens — scientist, teacher and man.

W. S. HOAR