



Waldo S. Glock: From Student Explorer to Tree Expert



Waldo S. Glock, Phi Beta Kappa

Waldo S. Glock grew up in a small town in Iowa and had the extraordinary opportunity in 1922 to be the only student to go on a University of Iowa sponsored expedition to the Fiji/New Zealand Islands. He was born in 1897 and grew up in Vinton, Iowa. His father owned a shoe store. He was very close to his parents and his anguish about the trip is revealed in an excerpt from his diary written a few days before departure.

Now that my sister, Lola, is dead all the attention of Mother and Father centers upon me. Indeed I feel helpless—powerless to secrete even a portion of the gratitude that all but overwhelms me at times when I think of the few years in which I shall have the opportunity to repay or show myself worthy! A hopeless love of daughter has caused my folks to redouble their efforts to please me. After all, how different the viewpoint of age and of youth! Now the primal instinct of racial perpetuation compels one to give, and one to receive! May I someday repay my parents in the way that they now are repaying theirs!

While at the University of Iowa, Glock worked as an undergraduate assistant in geology, a geology assistant and a graduate in geology. He received his B.A. in 1920. While working as a grad assistant in geology department, he was invited to go on the expedition that was strongly promoted by Dr. Wylie and eventually organized by Professor Nutting. Nutting recalled that Glock was a “particularly promising young man, who had already shown exceptional ability in research.”

In Glock’s diary on May 19, 1922 he cites that the members of the party, Dr. A.O. Thomas, Dr. Stoner and his wife, Louise, Professor Nutting and Dr. R. Wylie finally sailed from the continent. He exclaimed, “at that point I didn’t feel a thrill of excitement.” He quickly surmised that the “magnitude of the undertaking was incomprehensible, as yet.”

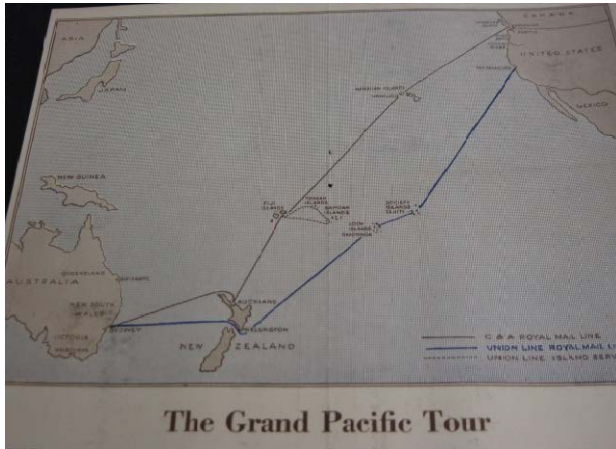


Glock's
Journal

On June 18, Glock focus became more sober. His diary begins what he calls, “a trip into the heart of the Fiji” in which he, Thomas and Wylie take a launch to the interior of Vitilevu to explore tropical land practically undisturbed at that time by man. Vitilevu is the second largest island in the Fiji. Dr. Thomas recalls that he and Glock tramped many miles over the roads and jungles of the Fiji and enjoyed the scenery while discussing geological features. He marked the following in regard to Glock: “Many pleasures were increased by our sharing; many problems were more lucid after a stimulating field discussion; burdens and difficulties were halved by his cooperation.”



Collected by Waldo S. Glock



The above map shows the route for the entire trip. It was found in Glock's scrapbook.

Glock's reactions to the virgin nature of the jungle on Vitilevu are described as follows:

I felt as my ancestors must have felt in a far away valley bounded by white vertical walls of barren rock, supplied with tropical fruit, herbs, tubers, fish and fowl, dwelling under thatched roof of palm on bamboo poles, caring for each article, each utensil, each weapon, as a treasure, thinking the thoughts of a primitive people, talking about things of interest in a prehistoric life, wanting little, and laughing easily.

Glock spent nearly a month of travel with Dr. Thomas over the greater part of New Zealand. As geologists, they traveled back and forth for many hundreds of miles. They saw extinct volcanoes such as Mt. Tarawera, hot lakes and geysers in a valley leading up to the famous Waimangu Basin with fumaroles that emit a variety of gases some of which are dangerously hot, and saw Pliocene fossils.

Glock and Dr. Thomas attempted a climb up Mt. Egmont in New Zealand and got as far as Fantham's Peak, because it was unsafe to go further since heavy loose snow was falling from above.



Mt. Egmont

Glock and Dr. Thomas also explored the Franz Josef glacier of the Southern Alps. It originates in a great snowfield or series of snowfields among which are Geikie, Davis, Salisbury and Chamberlin Snowfields, ranging from seven to eight thousands feet in elevation. The glacier proper has a length of seven and one-half to eight miles. It thus has a fall of close to one thousand feet per mile. They completed a difficult climb up the northwest corner and reached a surface with a view in which Glock was compelled to respond, "I was in the grip of admiration for this divine sculpture. We were face to face with grandeur and majesty. We lived, we breathed, in a world apart." These remarks made in August are all the more interesting, when remembering those made at the outset of the voyage in May.

Following these experiences, Glock decided to further his scholarship at Yale University and received a Ph. D. in 1925. He taught at Ohio State University from 1924-1931, Carnegie Institution of Washington at the University of Arizona in 1931. This is where he began research in tree growth with A.E. Douglass to extract both a chronology of events in the American Southwest, but also to measure climatic variability. In 1948 he began teaching at Macalester College in St. Paul, Minnesota in the Department of Geology. While there he founded the Tree-Ring Research Laboratory, which conducted research in tree-growth patterns in relation to rainfall.

In 1956 he received a letter from Dr. Wylie, which is excerpted below:

I hope your health remains favorable and that your studies on tree-rings are going forward. Whenever I glance at your earlier monograph I salute your patience and perseverance in that critical work. Naturally, I anticipate seeing your coming papers as the work develops. There is this probably shift in stress, ---that the longer you work on such projects the development of capacity for judgments permits more rapid, as well as more confident, interpretations.

I have counted it my personal good fortunes to be associated with you on the Fiji-New Zealand trip. One soon learns, how I am not sure, that some people "wear well" while others do not remain steady and true to one's estimate of them. Nothing may ever be said, but after a time you feel like saying, "That man is true-blue." So may I take this occasion to apply it to you, with all good wishes, for the years that lie ahead for you.

I am hoping to finish a couple of paper before cataracts demand surgery; we shall see.

The University of Iowa has grown during the years since you were here. I have been busy but have worked very quietly and much of the time in my little research room. I feel that my judgement is still good in certain areas of research.

With all good wishes.

Sincerely,

*Robert B. Wylie
Professor Emeritus*

Professor Wylie died three years later.



This 1963 article notes that Dr. Glock has spent 32 years studying tree rings and their relationship to climate changes. He proved that trees may form two or three rings a year because growth may fluctuate within the growing season of any year as well as annually. Farmer may know what years to expect bumper crops caused by favorable climate conditions. Dr. Glock was one of the pioneers in the fields of dendroclimatology and dendrochronology.

While at Macalester from 1948-1966, he placed great value in teaching intro courses for the benefit of non-science majors, focusing on big themes and application rather than minute details. He also led numerous field courses in the southwest, taught general geology, physical geology, geology in relation to man, mineralogy, fundamentals of structural geology, dynamic and geomorphic, stratigraphic and

historical economics, invertebrate paleontology, and research methods in regional geology of the US.

Dr. Glock retired from Macalester College in 1966. Then he taught for a year at as a visiting professor of geology at the University of North Carolina, Chapel Hill. He later accepted a research position at the University of Colorado, Boulder. He left Boulder in 1979 for full retirement at the age of 82.

He has authored over a hundred articles and books on tree growth and climate, tree rings, and dendrochronology, plus a number of articles on geology. In 1988, he was recognized by the Geological Society of America for his 50th year as a Fellow of the Society.

He married Betty Wellman in 1924 and they had one son, Waldo S. Glock, Jr. On January 7, 1990, he died at the age of 92 in Las Cruces, New Mexico.