

Memorial to Siemon W. Muller 1900-1970

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Siemon W. Muller, a Fellow of The Geological Society of America since 1936, died in his sleep on September 9, 1970. He was widely known as a colorful teacher at Stanford University, a specialist in Triassic paleontology and stratigraphy, a key member of a notable U.S. Geological Survey team in Nevada, and a student of permafrost. In addition, he was distinguished by an absolutely unique personality and an extraordinary life history.

“Si” Muller was born May 9, 1900, in Blagoveschensk, eastern Russia. His father had settled there as a teacher after having left Denmark to work on the trans-Siberian telegraph line. Si enrolled in the Russian Naval Academy at Vladivostok and was seventeen years old when the revolution engulfed Russia. He escaped the conflict and went to Shanghai, found a job with an American company, and began to learn English. In 1921 he sailed for the United States, working as ship’s purser to earn his passage.

He entered the University of Oregon where he majored in geology. While at Oregon, he and his older brother William at times lived in a basement where Si tended the furnace to pay the rent. After receiving the A.B. degree in 1927, he went to Stanford to study under the famed Professor James Perrin (“J. P.”) Smith. Si was strongly influenced by Smith’s charisma and scientific interests, and indeed he eventually succeeded “J. P.” as a teacher and specialist in Triassic paleontology and stratigraphy. While a graduate student at Stanford, Si could hardly afford room and board, and at times he camped in the hills and commuted to the campus in a Model “T” Ford provided by Hubert G. Schenck, who was also destined to join the Stanford faculty. Si received the A.M. degree in 1929 and the Ph.D. in 1930.

While a student, Si met Vera Vilamovsky, an attractive girl of Russian parentage. They were married in 1928 and were known as an unusually handsome and vivacious young couple. Throughout his lifetime Si was devoted to Vera and to their only child, Eric.

Si’s teaching career at Stanford began when he was appointed “assistant in instruction” while a graduate student. He became an instructor in 1929 and rose steadily through the ranks, becoming a professor in 1941. He taught a variety of academic subjects, and for a few years he instructed summer geology with outstanding skill and effectiveness. After World War II his courses included historical geology, paleontology, stratigraphy, permafrost, and the geology of California. The California geology course

received particular acclaim, both because of the professor's enthusiasm and because of the sequence of fabulous three-day field trips. Even after becoming emeritus in 1965, Si continued to teach with vigor and verve until his death, and his students responded with unusual affection and appreciation.

Muller's scientific research began about 1927 with studies of taxonomy, phylogeny, and zonation of Triassic and Jurassic ammonites in west-central Nevada under the inspiration and guidance of J. P. Smith. His project for the master's degree centered around ammonite faunas of the Pilot Mountains and vicinity—a remote desert region between Carson City and Tonopah, Nevada. There he found Upper Triassic and Lower Jurassic faunas that were hitherto unknown in North America. Characteristically, he made a rather detailed plane table map showing the geologic context of the fossils. His doctoral study was a continuation and expansion of this work and resulted in the recognition of assemblages characterizing a number of provisional formations in the region. It became obvious that certain faunal zones appeared and reappeared in unexpected places, sometimes in inverted sequence. A thrust fault (Upper Triassic over Lower Jurassic rocks) and many minor faults came to light. The interdependence of structural and paleontologic relations made a lasting impression on Si, and he began to develop amazing skill in interpreting complex structure as well as fossils.

While structural implications of paleontology were forcibly presenting themselves to Si, classic stratigraphic problems continued to challenge him. The placing of the Triassic-Jurassic boundary with respect to rocks in the field was a difficult matter. Might this important time boundary lie within a formation instead of between two formations? Si began to develop rigorous habits of distinguishing between faunas, rocks, and time. Insistence on scrupulous, consistent stratigraphic practices became one of his trademarks. It was entirely natural that he should team with Hubert G. Schenck, who had similar inclinations, in pronouncing specific commandments for sound stratigraphic procedure. In 1941, a paper with Schenck and another paper with additional authors proposed such things as distinct terms for lithogenetic, time-stratigraphic, and time units. In 1948, he and others also concerned themselves with correct practices in taxonomy. Muller had Teutonic instincts for logic, order, and consistency. He had strong feelings about the sanctity of type specimens. Likewise, each formation was explicitly described, with proper type locality, clearly designated upper and lower boundaries, and proper reference to faunas and age. Muller recognized, however, that formation, faunal zones, and age are not synonymous. The fact that different marine environments could result in different fossils in different lithofacies of identical age was obvious to Si and was imparted to all his students. At times biofacies and lithofacies became temporary obsessions, as he had begun to realize that thrust faults of large scale in Nevada might have juxtaposed different facies of identical age.

During the 1930s, Si's ability as a paleontologist, stratigrapher, and structural geologist—not to mention his prodigious physical endurance in the field—attracted the attention of the late Henry G. Ferguson of the U.S. Geological Survey. "Fergie" was also involved in studies of the geologic history of west-central Nevada. The two men teamed together, and thus began two decades of collaboration during which Si was a part-time employee of the Survey. In the years before and after World War II, the team of Muller and Ferguson (and eventually Roberts) energetically and painstakingly worked

out the complicated basic geology of a region larger than the state of Maryland and established the foundation upon which all further studies of west-central Nevada would rest. Their base maps were small-scale topographic quadrangle sheets, which were hardly adequate for complex geology, and they had no aerial photographs. On occasion Si and Fergie would laboriously climb separate but neighboring ridges leading to the crest of a desert mountain range and would compare notes at the top, only to learn that they had seen almost nothing in common. Such are the structural intricacies of west-central Nevada. Thrust faults, folds, and high-angle faults conspired to thwart the sort of reconnaissance mapping to which they were committed. Nevertheless, the two men enthusiastically persisted. After several years in which their only reports were abstracts and oral presentations, a series of "milestone" publications appeared. These included the 1939 and 1949 papers on the Hawthorne and Tonopah 60-minute quadrangles, which elucidated the Triassic and Jurassic stratigraphy of the region and startled the reader with Alpine-like Mesozoic thrusts and folds. One must remember that, in the 1930s, thrust faults were all but unknown west of the Wasatch Range, except for those brought to light by C. R. Longwell and others in southernmost Nevada.

The Nevada work was joined by Ralph J. Roberts, Muller, Ferguson, and Roberts tackled the formidable geology of the region around Winnemucca, considerably north of Hawthorne and Tonopah. Their efforts produced notable geologic maps of the Mount Tobin, Winnemucca, Mount Moses, and Golconda quadrangles. The rocks were divided into an imposing array of formations and facies, and a number of difficult Paleozoic units had to be reckoned with, as well as the Triassic and Jurassic strata. An ingenious interpretation of thrust sequences was worked out, including late Paleozoic thrusting and the Tobin-Golconda thrusting, which was thought to have occurred in the Jurassic. Although the timing of thrusting and the pre-thrust relationships of rock units have been considerably revised in recent years, the general character of rocks and events was brilliantly deciphered. Subsequent studies in the region all have depended to a greater or lesser extent on Si Muller's groundwork.

The orderly development of Si's scientific career was abruptly interrupted by World War II, during which he served under the Alaskan Division of the Air Transport Command. Because of his knowledge of the Russian language, he was assigned to studies, missions, and problems involving permafrost (a word which he coined). Most of the publications on the subject and most of the authorities were Russian. Si plunged enthusiastically into the new field and soon became a foremost American expert, preparing in 1943 a manual on the subject for the armed forces. Although he distinguished himself in this endeavor and contributed substantially to the solution of engineering problems in Alaska and elsewhere, from a purely scientific standpoint the digression was rather tragic. Demands stemming from his knowledge of permafrost kept diverting him long after the war had ended, and rarely was he able to devote himself continuously to the paleontologic-stratigraphic-structural work which was dear to his heart.

Professional recognition for outstanding achievements came to Si both for his academic and his wartime work. He was a Councilor of The Geological Society of

America in the late 1930s, a Guggenheim Fellow in Austria in 1937 through 1938 and again in 1956 through 1957, President of the Paleontological Society in 1965, and in recent years Trustee of the California Academy of Sciences until his death. He received, among other honors, a citation for Meritorious Service from the Armed Forces and a Freedom Medal.

Si Muller's scholarly work, engaging personality, and strength of character have affected geologists, students, professors, government personnel, and humble people with whom he came into contact in all the far-flung places to which his geologic missions took him. They, as we, will miss him. Surely Si has left a lasting influence on all who knew him.

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