Memorial to Alfred O. Woodford
1890–1990

DOUGLAS M. MORTON
Riverside, California

ROLLIN ECKIS
Pauma Valley, California

MASON L. HILL (deceased)
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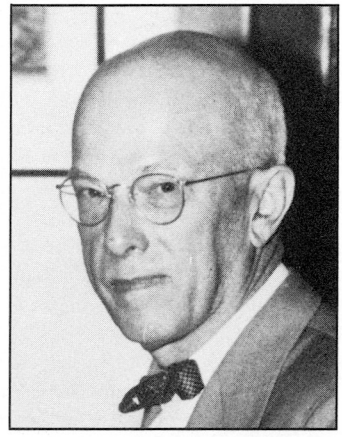

June 29, 1990, marked the passing of one of the giants of American geology, Alfred Oswald (Woody) Woodford, four months after celebrating his 100th birthday. Woodford significantly advanced geology in California, founded one of southern California's first geology programs, and was a highly respected teacher whose students went on in impressive numbers to hold prominent positions in the field. His popularity as a teacher and his lifelong associations and friendships with many of his "star" geology students are legendary.

Woody was born February 27, 1890, in Upland, California, the eldest son of a pioneering citrus-growing family instrumental in forming the California Fruit Growers Exchange, later called Sunkist. His family moved the short distance from Upland to Claremont in 1907, where Woody resided until his death. He graduated from Pomona College Preparatory School in 1909 and in 1913 from Pomona College with a degree in chemistry. After graduation, Woody entered the family business. In 1915 he began graduate work at Berkeley in soil chemistry, and in 1916 an optical crystallography course from E. F. Davis sparked an interest in geology.

In 1916 Woody joined the Chemistry Department at Pomona; he taught chemistry there while pursuing graduate work at Berkeley. Woody had an endless appetite for consuming and understanding geology. In 1919 he taught his first geology class, his father paying for the necessary equipment. Also in 1919 he conducted chrome and manganese mineral examinations with the Bureau of Mines in northern California, did field work in the Berkeley area, and in southern California began a study of contact metamorphism at Crestmore, while starting field work for his dissertation on the San Onofre Breccia.

In 1920 he was appointed to a position in geology in the Chemistry Department at Pomona. He received his Ph.D. and established the Geology Department at Pomona in 1921. Woody headed the department until his formal retirement in 1955. For years he single-handedly taught the entire geology curriculum.

By 1921 Woody formulated most of the geologic problems he would pursue over the next 60 years. His dissertation, "The San Onofre Breccia: Its Nature and Origin," a masterpiece combining thorough field work and deduction, was submitted to Berkeley in 1923 and published in 1925.

Woody's great success as a teacher resulted from his unabashed enthusiasm for and eclectic knowledge of geology and an overriding interest in and concern for his students. During the first few years of the Geology Department, Woody had a series of outstanding students, including Charles Anderson, Rollin Eckis, Mason Hill, Roger Revelle, and Dana Russell. Woody's interest in his students extended far beyond the classroom. Mason Hill recalls first meeting Woody when he was fortuitously sent to Woodford's desk for advice on his freshman curriculum. "He asked a few questions and suggested geology as a physical science requirement for graduation. I asked him what geology was and with his explanation, I agreed to take it. As it turned out, there was only one other freshman in his class, suggesting that he was a poor recruiter or very selective." Mase became hooked on geology, and upon graduation Woody got him a job in a gold mine. Near the end of the summer Woody drove out to the mine to persuade Mase to attend graduate school at UC Berkeley. Woody even signed a note so Mase could borrow the necessary money from Woody's bank.

In late 1928 Woody met Gwendolyn Green, a friend of his sisters. Four months later they were married. Gwen and Woody were a truly devoted couple, sharing many common interests in geology and linguistics. Gwen's most public contribution was her English translation of Gignoux's *Stratigraphic Geology* in 1955. After 53 years of marriage, Gwen passed away in 1982 after a lengthy illness, during which time much of her home care was provided by Woody.

Not only was Woody a productive researcher, but he published over an amazing range of topics. With a former student, Jerry Harriss, Woody described in the late 1920s the now-world-famous Blackhawk landslide on the north side of the San Bernardino Mountains, southern California. His comparison of the Blackhawk landslide with the Elm (Switzerland) landslide was most insightful.

In the 1930s Woody turned his full attention to the complex contact-metamorphic geology and mineralogy of the Crestmore quarries near Riverside. This work culminated with his student Wayne Burnham's masterful paper on Crestmore.

In the 1940s Woody began a major undertaking—understanding the geologic history of the petroleum-important Los Angeles basin. Along with his teaching responsibilities, Woody oversaw a U.S. Geological Survey office in Claremont. After World War II Woody had an influx of students; several—Thane McCulloh, Jack Schoellhamer, Bob Yerkes, and Jack Vedder—joined the USGS and worked on the Los Angeles basin. In 1941 John Shelton, a former student, joined Woody, doubling the size of the Pomona Geology Department.

He found time to collaborate with James Gilluly and Aaron Waters in a very successful physical geology text, first published in 1951. This text was the standard for many years. In 1965, Woody published a historical geology text.

In 1955 Woody formally retired, and he turned his full attention to geological research and writing. He selected Donald McIntyre as his replacement to head the Pomona College Geology Department. Another former student, Alex Baird, joined the faculty in 1954. Alex in many ways was the son that Woody never had. They worked together on several projects; Woody appreciated Alex's unexcelled analytical ability and the applicability of new technology to solving long-standing problems. Alex's premature death in 1986 was a blow from which Woody never fully recovered. Into his late 90s Woody continued to interact with new students, former students, and colleagues. His interest and unabashed enthusiasm for geology never diminished.

Upon his retirement Woody received the Neil Miner Award, the highest award of the National Association of Geology Teachers. He served as vice president of GSA in 1949, president of the Cordilleran Section of GSA in 1957, and president of the National Association of Geology Teachers in 1962. He was honored with a life membership in the American Association of Petroleum Geologists.

Woody Woodford is survived by two daughters, Marjorie Woodford Bray and Betsey

Woodford Coffman, both of Claremont, California, six grandchildren, and seven great-grandchildren.

Woody's career was long, fruitful, and varied. It seems appropriate to have parts of this remarkable career summarized by those who worked with him at various times.

SCHOLAR AND BIBLIOPHILE
H. Stanton Hill

The great success Woody Woodford achieved as a teacher, researcher, textbook writer, and philosopher of geology can be attributed to an unusual mind that knew how to go about things. One aspect of this quality was his early recognition that a geological library was essential to enable him, in geographically and scientifically isolated Pomona College, to gain an insight to what was known about geology in other parts of the world, in other languages, and in other times. The nearest adequate library in this field at that time was 400 miles away, in Berkeley. In 35 years he accumulated one of the great collections of geologic literature on the U.S. West Coast and one of the best in the classics that document the history of geology. This last group originated as his own private collection, kept on glass-covered shelves behind his desk in the basement of Mason Hall, the original site of the Pomona geology program.

It was here that I first met A. O. Woodford in January 1931. I had an appointment to see him about transferring to Pomona. As part of my review, he conducted me into the geology library next door, where were gathered the reference materials that he had acquired in the previous ten years. I later found out that much of the literature of geology was there, and that Woody was just as likely to assign a reading in French or German as in English. "Paleontologists must know French; mineralogists and petrologists German," he said. So it was German for me—as well as Latin, for during the first lecture on crystallography he brought out his copy of Nicholas Steno's *De solida intra solidum naturaliter contento* ... (1669), a volume introducing new ideas that marked the beginnings of crystallography and geology. Over the years Woody produced at seminars the great classics of geology, in first editions: William Smith's large hand-colored geologic map of England and Wales, James Hutton's *Theory of Earth*, Charles Lyell's *Principles of Geology*, and many others.

Woodford used his collection of rare books to better understand the development of geologic ideas, thereby making possible a more effective lecture and textbook presentation for the benefit of his students and readers. He recommended to others the historical approach to the introduction to geology, and he followed his own precepts faithfully in his texts, using narrative, quotations, paraphrasings, maps, and illustrations taken from the classics in his library.

Woody suffered a severe heart attack on April 26, 1941, at the age of 51. A glance at his bibliography will show how much work he accomplished after a recovery that took about a year. There is little doubt that he did a great deal of reading and thinking about geology during that period.

Principles of Geology by James Gilluly, Aaron C. Waters, and A. O. Woodford, published in 1951, became part of a series on geology published by W. H. Freeman and Company in San Francisco and edited by James Gilluly and A. O. Woodford. This remarkable array of textbooks has had a profound influence on the teaching of geology and its modern subdivisions in undergraduate and graduate courses in colleges and universities. Included in the series was Maurice Gignoux's *Stratigraphic Geology* (1955), translated from the French by Gwendolyn G. Woodford with her husband's "constant help and encouragement," and Woody's own *Historical Geology* (1965). Of all his writings, this book is the best exhibition of his enormous grasp of geology worldwide and of his use of the historical approach to understanding geologic problems and situations.

Woody's valuable personal collection of books, now in a special security room with a controlled climate, has acted as a magnet that has attracted donations of many rare volumes. The Woodford Library is the lasting legacy of a remarkable scholar and bibliophile, teacher and man.

A TEACHER AND COLLEAGUE
John S. Shelton

Woody Woodford was a true general geologist—one of the best and last of a vanishing breed, competent in all of the main subdisciplines of geology as it was practiced during his generation. The breadth of his interests is evident in the extraordinary range of topics of his publications, including mineralogy, petrology, geomorphology, history of geology, tectonics, and petroleum geology.

Woody was also eminently productive as a teacher, in attracting, stimulating, and guiding good students toward high levels of achievement. Their careers, which include petroleum geology, paleontology, research in petrogenesis, ground water, sea-floor geology, structural geology, teaching, and the many contributions of multitalented Roger Revelle, are again notable for a diversity greater than one might expect from a single source.

By any standard of the times, Woody's was a well-equipped and well-run geology department. Not only did it have good collections, reference materials, and field and lab equipment, but these seemed to be in almost constant use by both staff and students. Research of some kind was underway most of the time: students doing senior or master's thesis work; oil company geologists (often alumni) bringing in cores for examination of unusual lithologies; USGS geologists working nearby and using the Pomona facilities as a base of operations; and Woody always busy looking into some question. Through it all he had a gift for keeping up with housekeeping details like labeling, filing, buying specimen trays and supplies, finding more drawer space, answering correspondence, keeping things put away. Paid part-time student help was often used, but Woody could do it all when he had to.

Woody's productivity as a teacher stemmed from a wonderful combination of contagious enthusiasm, human warmth, breadth of interests, and stimulating intellect. His very presence was growth-producing; much was learned in the hallways, his office, over afternoon tea, or just examining a specimen or newly arrived book or journal. This supplemented the formal course offerings so effectively that his students did well in graduate school despite never having had classes in such subjects as economic geology or geomorphology. He gave full time and devotion to his department and subject; the so-called contact hours were enormous compared to the norm at Caltech or UCLA. Yet, despite this load, Woody always had time for his many visitors. Having heard it, who can forget his exuberant greeting: "Well, how *are* you?"

When interacting with people, whether students or colleagues, and whether he agreed with them or not, Woody had a gift for being generally supportive rather than critical. In those rare cases where he was unable to accept the position reached by the opposition, he seemed to feel genuinely sorry for them, rather than combative. Some students may, at first, have been intimidated by his occasional quick outbursts of "WHAT?" in response to careless thinking; later they must have appreciated what an effective teaching tool it was, especially when used so sparingly.

As his overall health began to keep him from vigorous field work, Woody kept active by coordinating his lab skills with mapping and collecting done on younger legs. At the end of each day he would eagerly examine the progress made and material collected, ask questions and offer insights or speculations that would send the student back to the field with renewed motivation and purpose. It was effective team work. In fact, throughout his career he generously included others; over half his publications have co-authors.

Woody was very successful in running his small department because he devoted full time to it, he had a gift for motivating student helpers, and he set an inspiring example of accomplishment. No one could out-perform him in any way, and the whole operation was infused with a priceless ingredient—his contagious enthusiasm. Woody's sensitivity and concern for people extended to all. He helped students find housing and sent them money from his personal funds.

There is something special about a man who can perform so well for so long and lead such a full and productive life without the stimulation of many in-house colleagues. Woody was sufficient unto himself, happy going solo, happy exchanging ideas with others, but not dependent on outside nourishment. As Isaak Walton might have said, he was a "compleat geologist."

CONTRIBUTIONS TO PALEONTOLOGY

Jack G. Vedder

Although Woody Woodford's contributions to paleontology are not generally recognized, his publications in the field were substantial. Descriptive and taxonomic aspects of the topic did not appeal to him, but his interest in biostratigraphic correlation was boundless. He maintained a close association with many renowned paleontologists and corresponded regularly with W. P. Woodring, M. N. Bramlette, M. L Natland, M. C. Israelsky, and others on such matters as conflicting age relations and paleoecologic inferences from certain fossil assemblages. Much of this correspondence included insightful observations as well as penetrating questions.

Woodford attributed his early interest in historical geology to the elucidating lectures of John C. Merriam at the University of California in 1915. He used his growing knowledge of the subject effectively in both the classroom and scientific writings. In H. G. Schenck's discourse on applied paleontology, he listed Woodford among a number of eminent geologists who were sources of historical background for studies in stratigraphic paleontology.

Even though he may not have prepared the taxonomic part of a paper on the geology and paleontology of the Meganos Formation by B. L. Clark and A. O. Woodford, he established, by association, a reputation as a qualified molluscan biostratigrapher. A brief, incisive discussion article that advocated a Miocene rather than an Oligocene age for the Vaqueros Formation was based upon an inferred correlation with the European Aquitanian and/or Burdigalian Stages, using the co-occurrence of orbitoid foraminifera and large pectens and oysters. This view, in contradistinction to Schenck's, was later confirmed by correlations of calcareous nannofossils and planktonic foraminifers by E. E. Brabb and co-workers.

In his scholarly essay, "Correlation by Fossils," published in 1963, Woodford concluded by saying that correlations based on guide fossils are the outcome of 150 years of repeated observations with remarkably uniform results, from which the following empirical generalizations can be made:

> (1) The fossil species and genera in a single column vary from horizon to horizon. (2) Homotaxis occurs between columns. (3) Within a province, guide species useful in time correlation can be established for horizon after horizon, using the methods described in this paper in connection with the northwestern European Lower and Middle Jurassic zones. (4) More distant correlations, between provinces, can be made by step-by-step correlations, using gradually varying assemblages. Time correlations based on homotaxial evolutionary sequences will become more and more easily distinguishable from the misleading correlations of facies zones as more is learned about the evolution and geologic history of the families involved.

He further stated:

> The fossils of the units in the standard column and of other units in other columns are still our principal guides in stratigraphic correlations, although we cordially welcome the statistical calibration of the standard column, in years, from radiometric data.

Woodford's *Historical Geology*, a textbook for beginning students in the earth sciences, includes chapters that deal with advances in the study of stratigraphic paleontology (biostratigraphy) and correlation by fossils. In the preface, he noted that the book is an attempt to retrace the growing comprehension of the history of life on Earth by concentrating on selected examples of major discoveries. The concise description and enlightening discussion of turning points in applied biostratigraphy are unrivaled in any other elementary text on the subject.

His article, "Catastrophism and Evolution," published in 1971, was an appeal for the use of caution and reason in the application of the concept of evolutionary biostratigraphy. As in his earlier papers, Woodford relied primarily on the "case histories" of d'Orbigny, Oppel, Lyell, and Arkell to support his arguments and used studies of Jurassic ammonite successions in northwestern Europe as an example of ordered evolutionary change. He concluded that if catastrophes occurred, they were not worldwide in scope.

Woodford was a superb geologic historian who ranked among the best of his contemporaries in recording the development of stratigraphic paleontology.

CONGLOMERATES IN BASIN ANALYSIS

Ivan P. Colburn

In the 1920s southern California was rich with geologic problems to be tackled by a generalist. Woody Woodford proved to be just such a generalist by virtue of his undergraduate training in chemistry at Pomona College and the broad scope of his graduate geologic training at UC Berkeley.

The San Onofre Breccia was ideal for stratigraphic analysis because the detritus in it was nearly monolithologic as well as having clasts that were very angular and had an extreme size range (some clasts are more than 40 feet long). Woody recognized that the characteristics of the clasts indicated that the detritus was deposited very near its high-relief monolithologic source terrane and that the principal mechanism of transport of the detritus was subaerial mudflows and avalanches in an arid climate. By careful comparative petrographic analysis, Woody determined that the breccia clasts came from Catalina Schist bedrock. As a corollary to this, he established that there were no major postdepositional dislocations in the southern California terrane that could have displaced the source rock at considerable distance from the site of San Onofre Breccia deposition.

Woody used the lithology and geographic distribution of the San Onofre Breccia to postulate that, in Miocene time, more of the Catalina Schist terrane was uplifted and exposed to erosion than is true today. These same data also suggested to him that the more extensive terrane was much closer to the present site of the San Onofre Breccia beds than if the detritus had traveled from Catalina Island or from the Palos Verdes peninsula.

Woody recognized from the field relations that Catalina Schist terrane was submerged or otherwise covered prior to Miocene time; that it was elevated to a subaerial erosion position during Miocene time; and that since that time, it had subsided almost entirely beneath the sea.

Woody's basin analysis of the San Onofre Breccia was probably the first one conducted on any formation in southern California up to that time, and it may well have been the first one conducted in California. In the years since Woody's work, the techniques employed in basin analysis have been greatly refined and improved, and yet his basin analysis studies of the San Onofre Breccia and of the southern California Paleogene and Neogene conglomeratic successions stand today as models of comprehensiveness and paleogeographic elucidation.

LOS ANGELES BASIN

Thane McCulloh, Jack Vedder, Bob Yerkes

Woody Woodford's first formal publication, in 1924, dealt with rocks of the Los Angeles basin and its margins and presaged his varied and long-lasting influence on geological understanding of that small but most petroliferous of sedimentary basins.

By 1943 Woodford was leading a small, established team investigating the geologic basis of petroleum resources of the Los Angeles basin under auspices of the U.S. Geological Survey. In "Geology and Oil Possibilities of the Puente and San Jose Hills, California" (1944), the structure and stratigraphy of the basin margin north of the Whittier fault are depicted by a planimet-

ric geologic map and numerous structure sections tied to 81 exploratory wells. In a separate comprehensive study of the petrography and clast provenance of extensive Miocene conglomerates that underlie the northwest and northeast margins of the hills, probable source areas in mountains north and east of the hills were identified and the northeast margin of the middle–upper Miocene depositional basin was mapped. A detailed two-color geologic map of the northwestern Puente Hills at 1:12,000 scale was published in 1949. This report covers all of the Whittier Hills north of the Whittier fault on a topographic base, thus superseding and extending the 1944 map.

The basement-rock floor of the entire Los Angeles basin, based on study and mapping of samples from about 150 deep wells, was first described in 1949 and documented fully in 1951 with a two-color contour map showing the configuration of the Catalina Schist basin floor southwest of the Newport-Inglewood zone. This report also recognized the buried Santa Monica Slate along the northern basin margin, the subsurface schist high on the upthrown block of the Whittier fault, and the locally exposed plutonic rocks northeast of the Whittier-Puente Hills, and it maps the Catalina Schist on the northeast flank of the Palos Verdes Hills. The contour map is supported by structure sections tied to control wells and detailed petrographic descriptions of basement-rock core samples from a well-known reference collection meticulously assembled over the decades by Woodford and his co-workers and students.

In 1954, as part of a comprehensive description of southern California geology, Woodford and his students published one of the earliest geologic syntheses of the entire Los Angeles basin which included much of the new mapping of the north, east, and southeastern basin margins, mapping implemented by Woodford.

Woodford and colleagues addressed a long-standing puzzle of southern California geology, the structural history of the east-trending Transverse Ranges, immediately north of the Los Angeles basin, in a paper published in 1974. They argued vigorously against rotation of the province as a consequence of the opening of the Gulf of California, on the basis that preexisting east-west structures are not disturbed. A principal conclusion, that "the Transverse Ranges Province remains a severe problem for interpretation of southern California evolution," is one that most workers would still support.

In 1980, when Woodford was 90, he and Craig Gander summarized the petrology and distribution of clast types in early Tertiary conglomerates of the Santa Ana Mountains and nearby areas. This report includes clast counts, geochemical data, and a map showing distribution of marine and nonmarine facies to support a discussion of paleogeography.

Woodford's contributions to works on the Los Angeles basin published entirely or mainly by others deserves special recognition. Investigations of the Glendora Volcanics were begun by J. S. Shelton in 1944 for the U.S. Geological Survey under Woodford's supervision and became the subject of Shelton's doctoral dissertation. Similarly, over a period of at least 15 years after 1950, Woodford contributed significantly and continuously to all parts of the U.S. Geological Survey research on the Los Angeles basin and its margins, not only as general supervisor but as a steadfast mentor and a superb example of professional researcher and teacher. He was directly engaged from early planning through field and laboratory investigations to final report preparation.

POSTRETIREMENT YEARS

Vincent S. Cronin

To understand Woody's work in his later years, it is useful to consider the substance and methodology of the geological research that he developed during his youth. Woody demonstrated in his doctoral dissertation that a highland area, characterized by bedrock composed of the distinctive glaucophane schist of the Catalina facies, had once been located west of the current coastline. Subsequent to the deposition of the San Onofre Breccia in fans descending east-

ward from that highland, the Catalina terrane was displaced and the fans were deprived of their source area. This rather startling interpretation was successfully defended through the systematic consideration of all other available interpretations for the breccia, given its texture, composition, and geometry. Woody's method was that of multiple working hypotheses. He carefully collected empirical data concerning the petrology of the schist clasts in the San Onofre Breccia, the morphology of the breccia unit, and the sedimentary structures within the breccia. Woody was able to define an origin for the breccia that, however unlikely it may have seemed at the time, was nonetheless fully supported by the observed geologic data. Typical of Woody, he cited geological literature published in French, German, and Italian in the development of his hypotheses.

Woody was not enthusiastic about the initial application of plate tectonics to the understanding of California geology; this may seem surprising, given his early openness to the possibility of rather large crustal movements. Woody followed with great interest the oceanographic research in the 1950s and 1960s that led to the development of plate tectonics, and he was persuaded by the evidence that oceanic lithosphere was created at mid-ocean ridges and consumed in subduction zones. Woody considered transform faults to be a geometrically interesting type of strike-slip fault that exists along mid-ocean ridges, but he objected when J. Tuzo Wilson interpreted the San Andreas fault as a transform fault. The San Andreas fault did not have the correct shape, orientation, displacement history, uniformity of displacement, or types of terminations to be a transform fault boundary between the Pacific and North American plates, as Woody interpreted the geological and kinematic data.

It would be facile to characterize Woody's attitude toward the application of plate tectonics to continental structures as being retrogressive or uninformed. An alternative viewpoint, more consistent with his scientific philosophy, teaching, and life's work, is that Woody was not persuaded by the data and arguments offered by many workers who sought to explain the geologic evolution of California primarily through the application of conceptual models of plate tectonics. In the first decades of plate tectonics, it seemed to Woody that journal editors were content to publish papers that described broad models based upon ideas that grew out of concepts, and that the authors of these publications were largely ignorant of the constraints imposed by the observed geology. One generation of speculative models would give rise to other generations of models, which seemed to be suspended in the literature by the thinnest strands of logic unencumbered by the existing geological data. When Woody cited geologic evidence that seemed to contradict certain models for the evolution of the Californian plate boundary, tectonicists considered these empirical data to be local details that could be explained by further development of the model. As one prominent young geophysicist was heard to say, "I am a modeler, not an observationalist." This approach to geoscience was unacceptable to Woody.

Woody's general impatience with matters related to plate tectonics was based, in large part, on the perceptions (1) that plate tectonics had come to be synonymous with hasty, flashy, poorly constrained, non-unique, speculative modeling (antithetical to the idea of careful, well-constrained, circumspect geological work), (2) that geological research and publication were being dominated by work at the plate-tectonic scale, at the expense of work at the more traditional geologic scales, and (3) that university curricula were becoming filled with coursework on tectonics at the expense of the fundamental topics that had to be mastered in order for students to become well-rounded geoscientists capable of doing careful, valid geological work.

In a 1978 letter to Jack Vedder of the U.S. Geological Survey, Woody wrote, "I am still struggling to understand the Tertiary history of coastal California.... Mase Hill and I are starting over." Woody was 88 years old at the time. In a subsequent letter, he complained about the interpretations of others in regard to the origin and distribution of Poway clasts and closed by saying, "but I must keep still from now on, at least in print." In other words, he would continue to

defend his ideas without resorting to contentious journal articles. This resolution, voiced nearly 25 years after his retirement, is testimony to his dedication and enduring commitment to solving geologic problems.

It is remarkable that many of the finest and most influential geologists to have worked in California during the middle half of this century have been connected in some way with A. O. Woodford, whether as a student or as a collaborator. As Thane McCulloh put it, "Throughout the period of time that I knew him, Woody and the Pomona College Geology Department were practically synonymous." Part of the educational richness that has characterized the geology program at Pomona College over the years has been provided by visits from Woody's former students, many of whom dropped by to see Woody and to share their experiences with students. Though the number of geology faculty has been small, from the time that Woody founded the department and acted as the sole teacher through the present, the extended family composed of Woody's many friends and former students has added great breadth to the program. Members of Woody's extended family made annual visits to Claremont in recent years to celebrate Woody's birthday by participating in the Woodford-Eckis Lecture Series, which was sponsored through the generosity of Woody's former student, Rollin Eckis. On his centenary in 1990, Woody's four great-grandsons were interspersed with assorted wizened field geologists within a crowd of well-wishers to celebrate one last birthday with the grand old gentleman.

Woody left behind a world that is better understood because of his scientific inquiries. More important, he left behind an ever-growing legacy of well-rounded, careful geoscientists who continue to study Earth and to impart their knowledge and methods of inquiry to future generations. Those of us who came to know Woody as a geologist, a teacher, a mentor, and a friend have been exceptionally fortunate.

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