vidual could attain eminence in intellectual fields at a more youthful chronological age than he could during the time of the early Greeks. The age-curves which accompany a recently published article[5] lend some support to this hypothesis.

Table 2 sets forth, for six types of creative thinkers, the r between mean age at time of accomplishment and mean age at time of death. None of the 126 groups for which data are presented in Table 2 contained less than 50 individuals. It will be noted in Table 2 that in each instance the r between mean age at time of achieving and mean age at time of death is positive. These positive r's suggest once again that the conclusion already stated with reference to leaders holds also for the 126 groups of creative thinkers, *i.e.*, that if one is to understand the real significance of whatever relationship may be found between longevity and superior performance, it will first be necessary to take accurate account of the mean ages at which the creative thinkers have demonstrated their superiority. In so far as the present writer is aware, this has never been done and, except for calling attention to the problem, no attempt has been made to do this in the present study.

TABLE 2

THE CORRELATION BETWEEN MEAN AGE AT TIME OF DEATH AND MEAN AGE AT TIME OF ENTRY TO VARIOUS GROUPS OF EMINENT INDIVIDUALS

Type of worker	r
21 groups of composers	+.46
11 groups of philosophers	+.31
19 groups of oil painters, etchers, etc.	+.61
20 groups of scientists, mathematicians, inventors	+.24
13 groups of contributors to medicine, surgery, etc.	+.93
42 groups of authors	+.56

OBITUARY

RENNIE WILBUR DOANE

1871–1942

THROUGH the death of Rennie Wilbur Doane on December 1, 1942, the science of entomology lost one of its most valued workers in both its teaching and its applied phases. His work in applied biology began at a time when economic entomology was entering a period of expansion in many of its useful fields of service. It was characteristic of the man that he should have chosen entomology as a career during one of its formative periods and that the record of his life has been one of pioneering effort. His interests have been broad, rather than specialized, and his contributions to his chosen work have been many and varied.

Mr. Doane was born in Des Moines, Iowa, on March 11, 1871. As a boy he moved with his parents to Kansas and later to Southern California, where he received his earlier schooling. He was twenty years of age when a new university on the Pacific coast, Stanford, was opened in 1891; and he entered with its first freshman class. As a self-supporting student, he found it necessary to interrupt his university course by one year of outside employment, but he returned to complete his collegiate work and graduate in 1896.

English literature was first selected by Mr. Doane as his major, but in his elective courses he was attracted by the men of the Stanford faculty who were teaching the biological sciences. In addition to David Starr Jordan, he came under the influence of J. H. Comstock, professor of entomology; and V. L. Kellogg, assistant professor. It was the stimulation of these men that led him to change his major to zoology and entomology in 1894, and it was from this department that he received his degree. Later he returned for graduate work, and it can be said that it was the influence of Vernon Kellogg which had much to do with the outlook upon entomology which was formulated by Mr. Doane during his undergraduate and graduate studies and his first years of teaching.

Following his graduation he went to Washington State College, where he taught zoology and entomology from 1896 to 1901, rising to the rank of assistant professor. It was while here that he married Elanora Cooper in 1898, who now surives him. His next position was that of superintendent of the Fisheries Experimental Station located at Keyport, Wash. Much of his work at this station from 1901–1903 was concerned with research dealing with the propagation of the native oyster, an important natural resource of the state of Washington.

In 1905 Professor Doane returned to Stanford, where he was to play an important part in the development of economic entomology on the Pacific coast. He first entered the faculty as instructor and curator in entomology, which then had the status of a department under Vernon Kellogg. In 1920, when Dr. Kellogg resigned to become a member of the National Research Council, entomology at Stanford was incorporated with the department of zoology and Mr. Doane was named associate professor. In 1926 he became full professor of zoology (entomology) and continued in this position until 1937, when he retired as emeritus professor.

Throughout his career at Stanford, Professor Doane was active in assignments which called for the exploration of new and varied problems in applied entomology. One of the first of these was in 1908, when he made an investigation of the insect pests of cocoanut trees in the Society Islands. The most important problem encountered on this trip was that of a scale

insect, *Aspidiotus destructor*. In 1913 he was called to the Samoan Islands on a similar study for the copra industry in which the most important insect pest proved to be a rhinoceros beetle, *Orycetes rhinoceros*.

It was in 1908 that Professor Doane began a study of insect problems connected with the destruction of plant life in the vicinity of industrial plants in the western United States. These problems were for the most part localized around the ore-smelting and chemical plants in the mining districts. He became a recognized authority in this field and his services as consulting entomologist were often requested by industrial corporations. Yet another phase of applied entomology that drew his interest was the control of mosquitoes in the San Francisco Bay area, where for many years he was chairman of the Matedero Mosquito Abatement District.

In taxonomic entomology Professor Doane was interested in Diptera and very early in his work specialized in the Trypetidae and Tipulidae. While at Washington State College he brought together large collections of both families and described many new species. He continued his work on this group while at Stanford, where he described a number of new species of Tipulidae, some of which were of economic importance.

Professor Doane is remembered by his students as an energetic, kindly instructor who was always ready to guide and help them in the acquisition of useful knowledge. In 1908 there was a small group of advanced students at Stanford who were planning to enter forestry and desired instruction in forest entomology. To accommodate this group he instituted a course in forest insects, based primarily upon the insect problems in western forests. This was one of the first, if not the first, courses in forest entomology set up by any of the larger universities in the west; and in its first year it called for the cooperation of class and instructor in getting the most out of the material available. The course was developed and continued throughout the remainder of his teaching career. Later, as forest entomology became recognized at other schools on the Pacific coast, Professor Doane took the leadership in combining under joint authorship with E. C. Van Dyke, W. J. Chamberlain and H. E. Burke a text-book, "Forest Insects," which was published in 1936.

The teaching of entomology in its application to diseases that affect man was among the more important courses which he covered during his long career at Stanford. This subject formed the material for his first book, "Insects and Disease," which was published in 1910. In 1915 he published with Dr. Kellogg a text-book, "Economic Zoology and Entomology." "Common Pests," a reference book dealing with insects and other pests affecting man, was published in 1931.

Both in his teaching and in his writing, Professor Doane possessed the facility to express technical material in clear, simplified language. A list of his publications prepared by Dr. G. F. Ferris shows a list of fifty articles and books. The published papers covered his taxonomic work on the Tipulidae and Trypetidae, the results of his investigations of insect enemies of the cocoanut palm, an article on the mosquitoes of the Society Islands, an article on mosquito control and several papers on western forest insects.

He was a member of a number of scientific societies, including the American Association for the Advancement of Science, the American Association of Economic Entomologists, the Ecological Society of America and the Sigma Xi.

The last years of Professor Doane's life were troubled by frequent periods of illness, but these did not break his always forward outlook or his enthusiasm in planning for things ahead. Among his most characteristic qualities were his energy and his tenacity in completing those tasks which he considered worth while. He always took a deep personal interest in the welfare of his students that followed them into the later walks of life. His wide background of experience and inborn kindliness made him a valuable counselor to all those who came within his influence. Once he recognized promise and worth in those with whom he worked, his loyalty and sympathy never faltered.

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LESLIE LELAND LOCKE

LESLIE LELAND LOCKE, long well known as an authority upon the history of mathematical instruments, in particular the Peruvian quipu and calculating machines, died at his home in Brooklyn at the age of sixty-three years, on August 28, 1943.

In addition to many scientific articles in mathematical journals, Professor Locke wrote an authoritative work, "The Ancient Quipu or Peruvian Knot Record," published in 1923 by the American Museum of Natural History, with a supplement in 1928.

His collection of early calculating machines was presented by Mr. Locke recently to the Smithsonian Institution. Valuable early American text-books were presented by Mr. Locke to the University of Michigan.

After graduation at Grove City College and postgraduate work at Grove City College (A.M. in 1900), Pennsylvania State College, Cornell University and Columbia University, Mr. Locke taught at Michigan State College, before establishing his teaching in