

Description	Sample No.	Age	Description	Sample No.	Age
<i>Arizona EE:12:2, Cochise County.</i> Charcoal, on San Pedro River about ¼ mile south of Hereford, Fort Huachuca Road, in erosion channel with artifacts tentatively identified with Chiricahua stage of Cochise culture. Collected by E. B. Sayles and Ernst Antevs; submitted by E. B. Sayles.	A-68	2850 ± 200 (1957)	Overlies clay containing elephant bones (exposed in main drainage). Collected and submitted by E. B. Sayles.		
<i>Arizona EE:8:13, Cochise County.</i> Sample from Murray Springs, about 1 mi west of Lewis Spring on San Pedro River, collected from heavily carbonaceous earth, about 500 ft northeast of an old ranch house at the forks of drainage, about 3 ft below the surface; the sample was overlain by fine silt in which Cochise-type artifacts occur.	A-69	8250 ± 200	<i>Arizona CC:12:4, Cochise County.</i> Carbonaceous material collected on San Simon Creek about ¼ mi north of the railroad bridge east of San Simon in erosion channel; probably Chiricahua stage. Collected by Ernst Antevs and E. B. Sayles; submitted by E. B. Sayles.	A-70	7000 ± 265 (1957)
			<i>Arizona EE:2:30, test 1, pit 1, Santa Cruz County.</i> Charcoal, Matty Canyon, San Pedro stage, Cochise culture. Collected by Dick Shutler, Jr., and Alexander J. Lindsay; submitted by E. W. Haury.	A-74	1950 ± 200 (1957)

Horatio Hackett Newman, Pioneer in Human Genetics

Following the rediscovery of Mendel's principles in 1900, the science of genetics grew rapidly. Several species of plant and animal proved very early to be especially favorable for study. Among these were the fruit fly, *Drosophila melanogaster*, and corn, *Zea mays*. Very soon a solid foundation was laid for the development of the genetics of all plant and animal species, including the human species.

Developing simultaneously with this young science of genetics was Horatio Hackett Newman. Born in Alabama in 1875 and showing very early an interest in biology, he could hardly help becoming excited about the wonders of genetics that were then being rapidly revealed. By 1905 he had received his doctor's degree in zoology from the University of Chicago. After several years of teaching zoology at the University of Michigan and later at the University of Texas, he returned to the University of Chicago to become a member of its faculty. Newman, F. R. Lillie, and C. M. Child

formed a triumvirate that gained or maintained for the zoology department of the University of Chicago a national and international reputation of first rank.

Very early in his career in zoology Newman developed an interest in plural births. He studied and published extensively on the embryological phenomenon of armadillos, in which all the members of each litter of four or six, depending upon the species, are invariably of the same sex and are invariably developed from a single fertilized egg. As time went on Newman gradually shifted his interest to human plural births, not so much because they interested him as a subject per se as because he recognized in them a powerful natural tool with which to evaluate the relative contribution of variations in heredity and environment to the occurrence of observed variations in human characteristics—especially mental characteristics.

Newman published six books and numerous articles. Particularly widely used

in colleges and universities throughout the United States, and to some extent in foreign countries, was his book entitled *Evolution, Genetics and Eugenics*. Most outstanding, however, was his book, or monograph, called *Twins*, which he published in 1937 in collaboration with his University of Chicago colleagues Frank N. Freeman and Karl J. Holzinger. This book is a study of the psychology and heredity of about 50 sets of identical and 50 sets of fraternal twins, reared together, and of 21 sets of twins reared apart from infancy or early childhood. It is a study which has probably been quoted more often than any other in connection with the inheritance of human mental variations.

Newman was unusually modest and retiring. As a result of this he did not compete well. He was not interested in details if they did not contribute to broad principles. Yet, he was exceptionally tolerant of those who, in his opinion, picked pebbles and lacked interest in, or were incapable of contributing to, the building of castles. Following his retirement, in 1940, from the University of Chicago, he lived a quiet life at Clearwater, Florida, until the time of his death, in the summer of 1957.

Newman was one of the outstanding pioneers in the development of the science of human genetics in America and, therefore, throughout the world.

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