to be a great handicap in this example. Some of the rings are not clearly identified by sharp deviations in the second derivative, but usually the second derivative had a constant sign in the region of these rings except at the right end of the second derivative curve. Even there the preponderance of points was in the proper direction. It is conceivable that a closer association of rings with second derivative maxima could be found if the log luminance function had been transformed to visual units (such as Munsell value) before differentiating, since equal visual brightness units are not a direct logarithmic function of luminance over the entire range of visual brightnesses; a quintic parabola gives a closer fit. For our purposes, however, the association was close enough to verify the Mach hypothesis.

The surprising thing in this instance was the clear appearance of rings for what seem to be only minor undulations in the log luminance curve; reports in the literature have been concerned usually with somewhat larger gradient changes.

A possible, more general application of numerical differentiation to problems of this type is suggested because continuous second or higher derivative functions may be obtained from any irregular luminance distribution. Any conclusion regarding the complete validity of this application must depend, however, on a more systematic appraisal using refinements such as those recommended by Ludvigh (*4*) for computing the effective distribution of the proximal visual stimulus.

References and Notes

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Alfred F. Huettner, Scientist and Teacher

Alfred Francis Huettner, professor emeritus of biology at Queens College, died 27 September 1955 in his 73rd year at his home in Douglaston, Long Island, New York. He was born at Reichenbach, Germany, on 13 December 1882 and came to the United States in 1904. Neither in his youth nor later was he afraid of hard work in any form. He was largely self-supporting and worked at a variety of jobs, including working as a section hand and shipping on as a sailor. It may well be that his early hardships fostered the keen sympathy and interest he showed later for his students, many of whom had to work for their own support.

He was delayed in his college work and graduated with a B.A. degree in 1916 from the University of South Dakota. In the fall of 1916, he entered Columbia University to do his graduate work in zoology under E. B. Wilson; the degree of doctor of philosophy was conferred on him in 1923. His dissertation, "The origin of the germ cells in *Drosophila melanogaster*," was a significant cytological work of technical difficulty and proved the multiple origin of the germinal nuclei in the fruit fly. This explained unexpected genetic findings in somatic mutation. Previously it had been supposed that the isolation of the germ cells in *Drosophila* was similar to that found in earlier work on *Miastor* and on *Chironomus*.

Dr. Huettner continued teaching and research on the staff of Columbia University as instructor and assistant professor until 1932, when he joined the biology department at Washington Square College of New York University as associate professor. He was promoted to professor in 1936. He joined the biology department of Queens College, Flushing, New York, in 1938, the second year of the college. There he organized the instruction in vertebrate zoology and vertebrate embryology. He retired in 1952 after serving for 7 years as chairman of the department. During all his years of active duty at Queens College, he also carried the burden of the premedical and predental committee chairmanship. He did not spare himself in this work, nor in any other, and rendered great service to the college and its students. It was quite fitting that on his retirement the Board of Higher Education honored him by naming him the first professor emeritus of Queens College.

Following his first cytological work already referred to, Dr. Huettner continued with cytological studies on the chromosomes and on the central bodies of the fruit fly. Possibly of more significance was his work on the early embryological stages of *Drosophila* that was carried out with the active collaboration of students. Benjamin Sonnenblick completed one phase of this project, which was published as a chapter in *Biology of Drosophila*. Dr. Huettner's last major contribution to science and teaching was achieved with the publication of his book, *Fundamentals of Comparative Embryology of the Vertebrates*. This book is still very widely used and is unique in the excellence of its three-dimensional illustrations, most of which were his own drawings based on his own preparations. Much original research went into the preparation of this book.

The admirable reputation of Dr. Huettner as a teacher was based on his wide knowledge of the biological sciences and his enthusiasm for the subject, which he was unusually successful in imparting to his students. His personal interest in students won him their esteem and affection. He interrupted his labors to give his time and help to colleagues and friends as well as to students. He was a man who set high standards of moral and intellectual integrity for himself and was able to live up to them.

Dr. Huettner enjoyed working at his home and in his garden; he became proficient in the laying of concrete walks and walls. He enjoyed the distinction of having grafted seven kinds of fruit on one tree and lilacs on his privet hedge. He was a man of many talents.

Dr. Huettner was a member of Sigma Xi and several scientific societies.

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