ing the first week of life are combined into rather gross but reliable behavioral classifications—level of "arousal" (sleep/wakefulness), postural pattern, general motor activity, and specific responses. Prechtl emphasizes that needed standardization can be achieved by delineating arousal level, neurological integrity, and obstetrical antecedents.

Varied techniques that have been used to resolve the classical dilemma as to whether perception is innate or learned are described by R. D. Walk. There is an evaluation of classical monocular-binocular cues, reviews of physiological mechanisms and of recent research generated by the visual-cliff technique, and descriptions of behavioral methods where subjects demonstrate depth perception by appropriate reactions (reaching, avoidance, and the like). Some apparently consistent trends are revealed by the highly variable procedures, and the author emphasizes the need for standardized methodology.

Psychological and (especially) physiological aspects of selective perception are discussed by G. Horn. Various findings from evoked potential and electroencephalogram techniques are interrelated with major subtopics of sensory pathways and neural responses to novel stimuli. Included in the latter topic are recent findings of unit studies and a system, proposed by Horn, which incorporates much behavioral and neurophysiological data. The wealth of interacting variables that can affect propagation and coding of sensory inputs should counter tendencies to create "attentional homunculi" or to assume that attentional phenomena are attributable to hypothetical brain stem and gamma efferent activity.

K. Schmidt-Koenig reviews a considerable amount of recent research on bird orientation. The organization of the material provides a good illustration of the methodological interplay between field observation of wild birds and controlled experiments in the laboratory. A discussion of rather formidable methodological problems suggests that further significant contributions will be made only by trained investigators.

Conditions and data relevant to habitat selection in birds are described by P. H. Klopfer and J. P. Hailman. The subtle interplays among environmental conditions (temperature, foliage, and food, for example) and behavioral factors (precocity, imprinting, and social interaction) relevant to selection of habitat are clearly presented and should be of interest to scientists concerned with behavioral evolution.

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General Relativity and Cosmology. G. C. McVittie. University of Illinois Press, Urbana; Chapman and Hall, London, ed. 2, 1965. xii + 241 pp. Illus. $6.95; 50s.

Professor McVittie's book is in refreshing contrast to most recent publications on general relativity. For the past quarter century, work in this field has grown ever more formal, with little attempt to relate the theory to the observed world. In marked contrast, McVittie continues the tradition of Tolman and Robertson, drawing from the observational data, meager as they are, the vitality needed to convert formal mathematics into theory.

The past decade has witnessed a great expansion of our knowledge of the Universe and its cosmological setting, and in this second edition of his book McVittie has completely rewritten the last two chapters dealing with this problem. The experts on relativity will find this the most interesting and important part of the book.

While most modern relativists have dropped the cosmological term from Einstein's equation, McVittie has retained it and based his discussion of cosmology on an assumed nonzero value of the "cosmological constant." His argument that the constant appears naturally as a "constant of integration" is not completely convincing after one recognizes that this term does not appear in the Euler equation derived from a variational principle without the introduction, *ad hoc*, of an added term in the variational equation. Most relativists find distasteful the arbitrary introduction into the theory of a large characteristic constant length. They would prefer to drop this term until the observations clearly demand it. In my opinion the observations are not yet complete enough to demand a nonzero "cosmological constant."

McVittie has an easy flowing style that makes his book easy to read. While several important parts of the traditional presentation of general relativity are omitted from his development, the parts he treats are covered with care, and this part of the book can be recommended to the student who wants an introduction to the subject. The section on cosmology should be of interest to a very wide range of readers.

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New Books

Mathematics, Physical Sciences, and Engineering

Adhesion and Adhesives. vol. 1, *Adhesives*. R. Houwink and G. Salomon, Eds. Elsevier, New York, ed. 2, 1965. 564 pp. Illus. $24. The contributors are K. W. Kirby, A. M. Kragh, W. R. Lewis, C. A. A. Rayner, R. N. J. Saal, G. Salomon, W. Van Der Colk, W. C. Wake, J. H. Wills, and J. Wootton.

Advances in X-ray Analysis. vol. 8. Proceedings, 13th Annual Conference on Applications of X-ray Analysis (Denver), August 1964. William M. Mueller, Gavin Mallett, and Marie Fay, Eds. Plenum Press, New York, 1965. 486 pp. Illus. $20. Forty-two papers.

Aerospace Ranges: Instrumentation. Joseph J. Scavullo and Frederick J. Paul. Van Nostrand, Princeton, N.J., 1965. 473 pp. Illus. $15.75. Principles of Guided Missile Design Series, edited by Grayson Merrill.

Analysis and Fractionation of Polymers. American Chemical Society symposia (Chicago, Ill.), September 1964. John Mitchell, Jr., and Fred W. Billmeyer, Jr., Eds. Interscience (Wiley), New York, 1965. 320 pp. Illus. Paper. $12.75. Twenty-four papers.

The Art of Algebra: A Simplified Account of Numbers, Equations, Groups, and Continued Fractions. Roger North. Pergamon, New York, 1965. 228 pp. Illus. Paper. $2.95. A volume in the Commonwealth and International Library of Science.

An Atlas of Models of Crystal Surfaces. John F. Nicholas. Gordon and Breach, New York, 1965. 239 pp. Illus. $27.50. Materials Science and Engineering Program Series, edited by G. J. Dienes and A. C. Damask.

Atomic and Space Physics. Alex E. S. Green and Philip J. Wyatt. Addison-Wesley, Reading, Mass., 1965. 635 pp. Illus. $18.75. Addison-Wesley Series in Aerospace Science.

Automatic Control of Aircraft and Mis-

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