using the same amount of time to travel (expenses paid) to various meetings.

If an international competition in the writing of advanced scientific texts does develop, it would have a healthy effect on the field.

ARTHUR V. TOBOLSKY
Department of Chemistry,
Princeton University

Museum of Microstructures

Interpretation of Metallographic Structures. William Rostoker and James R. Dvorak. Academic Press, New York, 1965. viii + 226 pp. Illus. $10.

"The book is an organized presentation of specimen microstructures, each chosen for its clarity of illustration and each or in groups forming the pretext for some discussion of interrelation between physical metallurgy and metallography." So the authors describe their intent, which is very satisfactorily achieved. There are some 139 photomicrographs illustrating chapters discussing polycrystalline structures, crystallization, solid state transformations, diffusion and transport processes, and quantitative metallography. The photographs (culled from years of materials development at the Illinois Institute of Technology Research Institute) range between good and excellent, both on the basis of metallographic technique and significance. They represent relatively exotic materials, but they were selected to show the universality of the physical principles of structure and are accompanied by a good discussion of the factors responsible for the particular shapes that occur. The sections on liquid-metal penetration and on diffusion and transport illustrate many important phenomena not commonly covered in metallurgical texts.

The book does not have the balance that would enable one to recommend it as an introduction to metallography, but it is a very useful museum of well-labeled specimen types for suggestive comparison with structures encountered in postmortem examinations and in the study of new types of materials. It is a well-made book, although the proofreader (?) has left errors in the simple equations for interface equilibrium angles and for grain shapes.

The rhythmic layering in chemically deposited nickel (see cover of this issue of *Science*) is strikingly uncrystalline and will be more familiar to fanciers of agate than to metallurgists with ordinary experience. Indeed people of any profession, or of none, will enjoy the structures as abstract art forms, and they will find suggestive analogies with biology, sociology, and virtually every field of knowledge and experience, for everything sensed or thought depends on some relationship between units and interfaces in structural hierarchies that are not unlike those here made visually manifest by the behavior of imperfect microcrystals interacting with each other.

CYRIL STANLEY SMITH
Massachusetts Institute of Technology, Cambridge

Note

The Year Book of the Royal Socity of London, 1965 (Royal Society, London. 351 pp. $3.15), provides a list, including addresses and professional affiliations, of the Fellows and Foreign Members of the Society and a separate list of those elected to membership in 1964. Among the other information provided is the Society's Calendar for 1965 and lists of its committees and boards, medals, lectures, and publications.

BIOLOGICAL AND MEDICAL SCIENCES

Biopsychology Comes of Age

Ernst Mayr recently wrote that "Typological thinking is unfortunately a disease that is highly resistant to all treatments. All we can hope for is to immunize the young against it, but whether we will be able to cure any of those afflicted with it is rather doubtful" (private communication, 1963). **Genetics and the Social Behavior of the Dog** (University of Chicago Press, Chicago, 1965. 468 pp., $12.50) by John Paul Scott and John L. Fuller is an important book, if not a great one. It is important because to my knowledge it represents the first systematic and methodologically sophisticated experimental analysis of behavior *not* cast in the typological mode of thought that has so long plagued the behavioral sciences. Scott and Fuller think in terms of populations and speak the clear language of modern evolutionary biology to present behavior-genetic analyses of individual and breed differences in the behavioral development of the polytypic species *Canis familiaris*.

Their theme is the role of heredity in the development of behavior. They provided puppies with an environment designed like a well-run school, then trained and tested the young from several breeds and attempted a partial Mendelian analysis of two breeds having the longest reproductive isolation. Throughout the highly readable account of 13 years of work we learn much about dogs and their long association with man.

The six chapters of section 1 lay the groundwork. The first, "A school of dogs," outlines the study and what follows. The second chapter, "Dogs, wolves, and men," discusses the origin of *C. familiaris* and its relationship to its congeners *C. dingo, C. lupus* (wolf), *C. latrans* (coyote), and *C. aureus* (jackal), then covers geographical distribution, fossil and prehistoric evidence, and evidence from comparative anatomy, physiology, and genetics. This chapter also presents a fascinating survey of historical evidence for man's role as selective agent shaping the