tive psychology. Rather, the specification of mental organization and processes is seen not only as feasible but as necessary to the progress of social psychology as a field.

This volume is a cross section of the insights gained to date through the use of the cognitive approach, and it displays major progress. The authors report optimistically, but not foolishly so, about the utility of cognitive method and theory for understanding social interaction.

The first section of the book concerns the organization and representation of social information. Ostrom, Pryor, and Simpson review and explain memory measures that index clustering (the grouping of related items in a memory output). Hamilton contrasts the forming of an impression of someone's personality, a task that demands considerable organization of memory, and the memorizing of a trait list, a simpler task.

The idea of schema is a linchpin in theories of how we make sense of others. It refers to the mental representation of generic knowledge abstracted from experience, which then guides specific encounters. General knowledge accumulates about types of people and types of social events, and complex expectations based on such knowledge allow people to function in the social world. Taylor and Crocker skillfully grapple with the use of the schema idea as theory. Most schema research has consisted of loosely related demonstrations of schematic effects; Taylor and Crocker conclude that demonstrations alone do not make good theory. Hastie presents a thorough history and evaluation of the schema in cognitive and social memory research. His resolution of previously puzzling results rests on the suggestion that though schema-discrepant events attract attention, schema-congruent events are more easily remembered. Wyer and Srull focus on how people select a particular schema for the interpretation of ambiguous events. They conclude that a given schema stays on the top of the mental heap by virtue of its recency and frequency of application.

The second section of the book is concerned with dynamic factors in social information processing. McArthur's cogent review of the role of attention in this process starts from the standard social cognitive assumption that social perception resembles object perception. She raises an intriguing and implicitly anticognitive possibility, that the effects of attentional focus occur immediately upon perception of a stimulus and are not mediated by intervening cognitions. In contrast, Ebbesen suggests that explicitly cognitive mediators play a role in the process of making personality ratings of oneself or others.

The final four chapters in this section are concerned more with social interaction processes. In an emphatically social program of research, Snyder and his colleagues have engagingly and realistically demonstrated the ways in which social hypotheses become self-fulfilling. Ross also takes a social stand, in an elegant analysis of why most people abrogate more than their share of responsibility for any given group product. Chapters by Krauss and Higgins deal with strategic behavior in social interaction. Krauss contrasts the perception of objects with the perception of people, who attempt to manage the impressions they create. Higgins discusses the purposeful aspects of social perception and impression management, emphasizing the rules, mutual observation, interdependency, and negotiated consensus inherent in communication.

The book as a whole reaches no single consensus. These authors are not easily persuaded to compromise their highly individual perspectives. Each is a tough-minded critic of the emerging field, and indeed the volume concludes with a clear-headed chapter by Higgins, Kuiper, and Olson, setting forth the explicitly social omissions, such as individual history, emotion, and personal relevance, in social cognition.

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Cancer Cell Biology

Neoplastic and Normal Cells in Culture. J. M. VASILIEV and I. M. GELFAND. Cambridge University Press, New York, 1981. xiv, 372 pp., illus. $79. Developmental and Cell Biology Series, 8.

Cell culture has been a powerful technique for modeling the earliest steps in the development of neoplasia. This is so because many tumors seem to arise by stable mutational change in a single cell of the body, because many normal cell types grow well in a dish, and because many of the agents that cause tumors also cause simple cultured cells to become the progenitors of malignant cell lines.

This book aims to describe and discuss the comparative characteristics of the processes regulating cell proliferation, differentiation, and morphogenesis in normal and neoplastic cells in cell cultures. It begins with a 50-page introduction that describes the in vitro systems of transformation of fibroblastic cells by viruses and chemicals. The body of the book then deals with two major subjects. Cellular morphology in normal and transformed cultures, the authors' home ground, is covered through careful discussions of the cell structures associated with cell shape and locomotion and the changes in these structures attendant upon oncogenic transformation. The second major subject is the rather small set of growth-selective in vitro transformation assays now in use. These include assays for loss of anchorage dependence, density-dependent growth inhibition, and the requirement for serum factors. This part of the book could easily have been a mere list, but the authors have managed to put most everything in a logical order.

Unfortunately, no serious attempt is made to tie these two parts of the book together by hazarding a guess about why changes in cell shape and locomotion accompany the losses of growth control seen in the various transformation assays. The authors put their toes in the water with the observation that transmembrane receptors are necessarily immobilized whenever a cell pushes out a bit of itself into a pseudopod (pp. 91–92). They go on to speculate about how these immobilized receptors might "induce another set of cortical changes leading to anchorage of the surface in association with the microfilaments." Now, that might be the beginning of a lovely way to tie the abnormal actin organization and novel cell shape of a transformed cell to its ability to grow in the absence of anchorage, but the authors do not make the connection. Further, if they had recalled that some hormonal receptors are also transmembrane proteins, they might have been able to pull the serum-transformation assay in under this same cortical event.

The book is non-judgmental to a fault. For every generalization exceptions are quite dutifully listed, and for every description of an attempt at the construction of a working model of some set of phenomena equal space is given to the notion that all the phenomena at hand are indistinguishably proximal to some unknown causative event. This makes the book a far calmer one than, say, *Molecular Biology of Tumor Viruses*, edited by Tooze, but I wish the authors had taken a few more chances and made a few more bets.

One last observation. Unlike many other Russian works, which lumber

along through mostly Soviet literature, this book flows sedately back and forth across the borders of East and West to describe an intersect of cell biology and medicine with care and fairness. I can only hope that the authors may have the personal freedom commensurate with this learned, classical objectivity.

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Microbial Genetics

Genetics as a Tool in Microbiology. Papers from a symposium, Cambridge, England, April 1981. S. W. GLOVER and D. A. HOPWOOD, Eds. Published for the Society for General Microbiology by Cambridge University Press, New York, 1981. x, 428 pp. $65. Society for General Microbiology Symposium 31.

In these days of host-vector systems, expression vectors, and cutting and splicing, it is easy to forget that current advances in studies of microorganisms, in spite of recombinant DNA, rely on a very substantial background of classical genetics. As is pointed out in the preface to this book, it is 21 years since the Society for General Microbiology last held and published the proceedings of a symposium on the genetics of microorganisms; it is highly appropriate that a sequel should appear now, both as a reminder of the importance of studies in this field and as a summary of how the field has advanced. There is no question but that genetics is an indispensable tool in the analysis of microbes, as it is in studies of higher organisms. The old saying (attributed to Luria) that "one mutant is better than no mutant" still has validity.

This collection of papers is an extremely valuable source of information on the application of classical genetic studies to the analysis of a number of microbial systems. It is one of the most useful and readable books that I have seen for some time, and it deserves a place on most bookshelves.

The papers include not only discussions of classical approaches to microbial genetics but also extensive reviews of subjects of more recent development. In this respect, the review by Ferenczy of protoplast fusion is especially timely and comprehensive and provides as complete a view of this subject as can be found in the literature. One other pleasing aspect of this volume is the inclusion of reviews of genetic studies of microorganisms that seem to have taken a back seat to *Escherichia coli* in the present rush to clone. Thus Arst presents an excellent and concise summary of fungal genetics with special attention to *Aspergillus nidulans*; it is easy to forget the role that studies of this microorganism have played in our present understanding of many interesting genetic phenomena. The review also emphasizes our failure to explain many of these effects in biochemical terms. In a similar vein, Shapiro, Nisen, and Ely summarize the state of affairs of genetic studies of *Caulobacter crescentus*.

Most of the papers concentrate on specific aspects of the genetic analysis of interesting microorganisms, such as antibiotics and secondary metabolites in Actinomycetes (Hopwood), bacterial chemotaxis (Parkinson), bacterial virulence (Maas), nitrogen fixation (Dixon, Kennedy, and Merrick), photosynthesis (Bartlett, Boynton, and Gillham), the cell cycle (Nurse), and the bacterial cell surface (Mäkelä and Stocker). These papers vary in quality, but all provide valuable background information in their fields. Two subjects of interest in microbial biochemistry, translation and transcription, have been ignored, which is strange, for there has been so much excellent genetic analysis of the ribosome and RNA polymerase. A review of transcriptional regulation (Travers, Kari, and Mace) is out of place, since it contains very little discussion of genetic analysis and pays only lip service to studies of nucleotide sequences involved in transcriptional control.

Finally, the book contains two reviews of methodology, one on gene manipulation in vitro (Timmis), which gives as excellent an appraisal of recombinant DNA technology as one would want to find in 60 pages. This contrasts with the rather terse description of genetic manipulation in vivo (Sherratt), in which, for example, all the beautiful work on bacteriophage lambda as a tool for the genetic manipulation of *E. coli* is summarized in only 30 lines.

To summarize, this volume is a good buy—it has some deficiencies (why were *Bacillus subtilis* and *Saccharomyces cerevisiae* left out?), but it provides a lot of good, practical information. In addition, it was published in the same month as the symposium, so that it is generally up to date. The Society for General Microbiology has set a high standard in rapidity and quality of publication; it is to be hoped the American Society of Microbiology will try to match this in the future.

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