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Edited by R. E. Lubow and Ina Weiner

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LATENT INHIBITION: COGNITION, NEUROSCIENCE AND APPLICATIONS TO SCHIZOPHRENIA

Latent inhibition is a phenomenon by which exposure to an irrelevant stimulus impedes the acquisition or expression of conditioned associations with that stimulus. Latent inhibition, an integral part of the learning process, is observed in many species. This comprehensive collection of studies of latent inhibition, from a variety of disciplines including behavioral/cognitive psychology, neuroscience, and genetics, focuses on abnormal latent inhibition effects in schizophrenic patients and schizotypal normals. Amongst other things, the book addresses questions such as: is latent inhibition an acquisition or performance deficit? What is the relationship of latent inhibition to habituation, extinction, and learned irrelevance? Does reduced latent inhibition predict creativity? What are the neural substrates, pharmacology, and genetics of latent inhibition? What do latent inhibition research and theories tell us about schizophrenia? This book provides a single point of reference for neuroscience researchers, graduate students, and professionals, such as psychologists and psychiatrists.

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Preface

Latent inhibition (LI), a phenomenon that reflects an outcome from the processing of irrelevant stimuli, has been of interest to the research community for five decades. And, if anything, its appeal and influence is growing. To mark the fiftieth anniversary of the publication of the first LI experiment, we asked a number of leading scientists to contribute chapters to a volume that would cover the broadest possible range of recent developments in LI research and theory.

Amongst other things, we were interested in showing how a simple behavioral experiment conducted so very many years ago on sheep and goats has led to a burgeoning research enterprise that has enlisted many neuroscience disciplines, including those in physiology, chemistry, pharmacology, and genetics, and has branched out from academic concerns with learning theory to theoretical interests and applications related to schizophrenia. Unfortunately, many people working in research-specific areas find it difficult to keep abreast of the broad cross-disciplinary advances in LI, often directly relevant to their own interests. As an example, there is considerable research on the pharmacological, molecular, and cellular mechanisms underlying LI, and LI is a popular paradigm for studying the neurobiological basis of schizophrenia. However, many of the neuroscientists in this field are unaware of the cognitive/information processing theories underlying the LI effect. The opposite is also true; behavioral/cognitive theorists are often uninformed about advances in the neurophysiology of LI. The present volume provides these researchers with a comprehensive survey of current LI research and theory, from genetics to behavior, thereby strengthening the particularist approach to research as well as fostering an interdisciplinary methodology.

Fifty years ago no one would have envisaged, or even come close to foreseeing, the possible fruits of that first demonstration of a latent inhibition effect. At one time, United States Senator William Proxmire awarded an annual prize, the Golden Fleece Award, for research projects most likely to waste taxpayers' money. Surely, the effects of preexposing a to-be conditioned stimulus on the classical conditioning of leg flexion in goats and sheep, although fortunately preceding Senator Proxmire's rancor, might have appeared to be a worthy candidate for the award (all the more so,

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since many of the subjects were indeed fleeced). The present volume, at least in retrospect, hopefully would have discounted such a nomination.

The present volume is deeply indebted to the students and colleagues with whom we have worked with over these many years, several of whom have contributed chapters, and to the research support from a number of foundations and government agencies in the United States and Israel. In no particular order, we would like to convey our gratitude and indebtedness to Hedva Braunstein-Bercovitz, Gonzalo De la Casa, Joram Feldon, Oren Kaplan, and Paul Schnur, and to the US National Institutes of Health, Israel Foundation Trustees, Psychobiology Foundation, Israel National Academy of Sciences, and Scottish Rite Schizophrenia Research Program.

The Editors