Preface

I am also grateful for the enormous assistance of the National Medical Library in the immense search of the Index Medicus undertaken on my behalf, and the Library of the National Institutes, especially their staff in preparing equally friendly and helpful.

I am indebted to the Rockefeller Foundation for a delightful year at the Villa Serbelloni, its conference center at Cape St Vincent, Italy, during which I wrote the Bellagio Report.

Finally, I wish to thank my former secretary, Miss Grace Hunter, for typing the manuscript.

Ragnar Granit

The Purposive Brain

1 The General Nature of Biological Explanations

In Berlin, with objectivity as research alone explanation from the standpoint of present-day sciences is at a disadvantage, a disadvantage that is scarcely to be overcome. It is requested that in advancing a thesis no science will be appropriate. We cannot reach further than to science and what can be understood and realize what we cannot understand. *The autobiography of Bernhard*

Physics and Biology

The degree of satisfaction that a biologist derives from his explanatory theories not only on their comprehensive and intuitive and by science as well. He is not satisfied but also on the preferences and interests of the person. There are those whose appreciation is reserved for mathematical physics as the ultimate requirements, all of which could be an aspect of, but not to interpret, the science as a whole. Others are more impressed by the chemical aspects, the great conflict of these interests. Others are more interested in seeing a regard them as more, or this being a matter of different kind and that is evident by design of, concerned with interpretations of a very different order. Still others are more interested in the physiological interpretations. What I mean by the end of this book is to broaden a little the perspectives of readers with the hope that they will be more receptive to the various approaches to the problems that lie ahead.

Physics as the representative leader, starting in all of the sciences, has been a great success. Its achievements in the past four centuries have left the field of the biological instrument. Dating as it has for, as physical discussions with gaining an interest. Physics can not explain the organization of the brain and all important questions, the answers. If [illegible] biological [illegible] Indeed not intelligible.

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2 Physics and Biology

It is not my intention to call an end to length with the relation of physicochemical explanations. The physicists and chemists have provided us with a host of learned treatises and popular writings. Our point I want to emphasize—because it usually called for physiology—is that the insight laid down in the concepts and formulas of modern physics in the mind is inferior to the opposite view of appreciation. The most famous example is Einstein's equation relating energy and mass, $E = mc^2$, which has the design of simple plan and of the same kind.

Beyond any reasonable doubt this is obliged to as one of the outstanding truths in the entire history of science. This stands to be able to define the terms in which [illegible] the [illegible] [illegible] [illegible] [illegible] the four terms—mass, velocity, physicochemical explanation, and other, the mind meant to him as cause. It [illegible] [illegible] [illegible] [illegible]