

Preface

We are living in a world of increasing complexity in which accurately perceiving reality is increasingly important and difficult. Society's need to address "global grand challenges" requires that the scientific community initiate inter-disciplinary research often very unlike current education programmes, which are usually based on intra-disciplinary science. Improving our understanding of complex problems and communicating this understanding to a large group of people of differing backgrounds and educational levels, such as scientists from various disciplines, politicians, experts, students, and laypeople, represents a great challenge.

Analytical thinking is a powerful way of solving problems and has been used both to develop and destroy society and nature. However, we are only partly aware of the sum of our knowledge, and we are not restricted to analytical thinking. Art and our dreams are full of feelings and inspirations that can open up new dimensions in our lives. The great need for perceptual accuracy relies on our ability to connect analytical thinking with the intuition often manifested in dreams, literature, and art. This ability to interconnect these human capabilities, however, is not yet recognized in most educational programmes. The need to develop pedagogical methods for improving analytical, empathetic, and self-reflective thinking is stronger now than ever.

In this book, I investigate my own search for a new way to understand myself and my research area based on personal experience and on my work as a marine scientist in the field of oceanography and climate research. In recent decades, the marine environment has experienced serious damage and the scientific community has tried to act as a whistle-blower, though with few noticeable results. Society is entering a new era of conflict marked by increasing pressure on our natural resources and needs for new technology. It is imperative that we change our mentality, to become more environmentally aware, friendly, and caring. The existing trend towards ever greater knowledge fragmentation and increased competition requires that we step back and investigate our behaviour and driving forces in a more mindful way. At universities, the freedom to generate new knowledge

needs stronger support, as does the understanding that the teacher's main missions are to generate new knowledge, educate, and to support the joy of learning.

This book illustrates how analytical thinking and intuition can be trained, and I propose a method for connecting both aspects in a systematic way. The dream group process developed by Montague Ullman, which includes training in analytical, empathetic, and self-reflection skills, is an excellent tool that should be included in university curricula, particularly for science students. In science, we learn to observe nature in an objective way, organizing measurement platforms and building mathematical models. Now is the time to employ methods that help us explore our driving forces, to improve our communication skills, and better understand how humans are influencing society and nature.

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Connecting Analytical Thinking and Intuition

And the Nights Abound with Inspiration

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