

INTRODUCTION

A comprehensive statement on the anatomy and physiology of hatha yoga ought to have been written years ago. But it hasn't happened, and my aim is to remedy the deficiency. After considering the subject for twenty-five years, it's clear that such a work might well interweave two themes: for the benefit of completeness, a traditional treatment of how to do yoga postures (yoga asanas) using anatomically precise terminology, and, for correlations with medical science, an objective analysis of how those postures are realized in some of the great systems of the body. In that regard, special emphasis is placed here on the musculoskeletal, nervous, respiratory, and cardiovascular systems—the musculoskeletal system because that is where all our actions are expressed, the nervous system because that is the residence of all the managerial functions of the musculoskeletal system, the respiratory system because breathing is of such paramount importance in yoga, and the cardiovascular system because inverted postures cannot be fully comprehended without understanding the dynamics of the circulation. Most of the emphasis is practical—doing experiments, learning to observe the body, and further refining actions and observations.

The discussion is intended for an audience of yoga teachers, health professionals, and anyone else who is interested in exploring some of the structural and functional aspects of hatha yoga. The work can also serve as a guide for students of alternative medicine who would like to communicate with those who place their faith more strictly in contemporary science. To help everyone in that regard I've included only material that is generally accepted in modern biomedical sciences, avoiding comment on non-physical concepts such as prana, the nadis, and the chakras, none of which are presently testable in the scientific sense, and none of which have obvious parallels in turn-of-the-millennium biology.

The book begins with an introductory discussion of some basic premises that set a philosophical tone and suggest a consistent mental and physical approach to postures. Ten chapters follow, the first three fundamental to the last seven. Chapter 1 summarizes the basic principles of the anatomy and physiology of hatha yoga. Breathing is next in chapter 2 since the manner in which we breathe in hatha yoga is important for expediting movement and posture. Breathing is followed by pelvic and abdominal exercises in chapter 3 for three reasons: many of those exercises use specialized methods of breathing, they are excellent warm-ups for other postures, and the pelvis and abdomen form the foundation of the body. Standing postures will then be covered in chapter 4 because these poses are so important for beginning

students, and because they provide a preview of backbending, forward bending, and twisting postures, which are covered in detail in chapters 5, 6, and 7. The headstand and shoulderstand, including a brief introduction to cardiovascular function, are included in chapters 8 and 9. Postures for relaxation and meditation are treated last in chapter 10.

It will be helpful to experiment with each posture, preferably in the order given. This approach will lead you logically through a wealth of musculoskeletal anatomy, bring the academic discourse to life, and permit you to understand the body's architecture and work with it safely. If some of the sections on anatomy and physiology seem formidable, there is an easy solution. Turn the page. Or turn several pages. Go directly to the next section on postures, in which most of the discussion can be understood in context. Just keep in mind, however, that knowledge is power, and that to communicate effectively with laypeople who have technical questions as well as with health professionals to whom you may go for advice, it may be desirable to refer back to the more challenging sections of this book as the need arises. And those who do not find these sections particularly demanding can look to Alter's definitive *Science of Flexibility*, as well as to other sources that are listed after the glossary, if they require more technical details than are provided here.