

PREFACE TO THIS EDITION

IN HIS QUEST for physical fitness man unfortunately labors under the basic handicap of moving in an upright position. This handicap is all too often magnified by his adherence to an assorted collection of false, though time honored, notions about posture and movement. Many of these notions are traditional ideals and practises of physical education and fitness programs. They, therefore, continue to dominate the field of activity teaching with the inexorable net result of perpetrating and intensifying poor habit patterns of muscle action, and concomitantly the building of strain which often leads to pain.

In *The Thinking Body* Mabel Elsworth Todd presents facts from a functional point of view, in a manner which is both informative and interesting to anyone concerned with reducing muscular strain. Two years of study with Miss Todd convinced me that her unorthodox approach to teaching body balance and motion was highly effective in producing more efficient mechanics of movement and more pleasing upright figures. During this period of study certain conclusions were formulated:

1. Teaching which differed so completely from the traditional indoctrination should be examined critically from the standpoint of factual knowledge of anatomy, physiology, and mechanics.
2. The validity of this method of teaching should be substantiated through experimental research.
3. Any teaching which could produce such unquestionably good results in body alignment with simultaneous increase in efficiency and ease should be available to all in the educational system, and not be confined to private teaching.

The pursuit of the problems presented by these conclusions has been the major activity of my professional career.

It was of prime importance that I find the location and direction of movement in various parts of the skeletal framework which

would result in better body alignment. This would give me an organization whereby I could classify and present in a logical manner imagined action as employed by Miss Todd and the factual knowledge which supported it. Toward this end I measured students in my posture classes at Teachers College, Columbia University two or more times before starting class work. Measurements were taken of the relation of all bony prominences to each other in the standing position and to vertical lines in front and in back of the body. They were recorded by a secretary and filed for study at the completion of a semester's program. Measurement of a group of students was followed by teaching in which I followed Miss Todd's procedure the best I could at that time, often receiving advice and teaching help from her. At the end of the semester the students were measured two or more times again.

Of the many changes in relationship of parts of the body indicated by differences in the measurements before and after teaching, nine were found to have occurred in the same location and the same direction in all subjects. A careful analysis of these changes indicated the body approached thereby greater conformity with principles of mechanical balance, particularly weight near center and weight near base, but with simultaneous increase in height.

Thus an organization for the location and direction of imagined movement was found. It has been subjected repeatedly to critical analysis in the light of new information applicable to human movement as it appeared. It continues to serve as a basis of my teaching, not only for posture improvement, but for greater ease and efficiency in the performance of any activity or occupation. Finally it has enabled me to create and teach movement as needed by some students who have experienced muscular problems during activity. Such movement in no way resembles traditional posture exercises.

A second study was made possible by Dr. Jay B. Nash of New York University and the Educational Department of General Electric X-ray Corporation. This dealt with bilateral alignment of the skeletal structure as shown in the x-rays of 500 subjects in the standing position. The results in each of the four age-sex groups into which the subjects were divided reinforced the evidence found

in *The Thinking Body* of the great importance of the central area of the body in the control of equilibrium and movement. Here the deviations from symmetry were found to be markedly consistent and so highly related that it is often possible to predict, with a high degree of accuracy, the difference in use of the legs, both in support of body weight and in movement.

Some 400 subjects of the x-ray study were in my posture classes at New York University over a period of three years. By comparing differences in muscle tone, determined by palpation, with deviations shown in the skeletal x-ray of each student, valuable experience was gained in the use of my hands as an aid in teaching. "Educated" hands can serve four purposes: to determine from relative muscle tone the under-lying skeletal deviations from good alignment, to detect change in muscle tone as the student thinks through his body, to assist the student in locating his thinking in his body, and to aid the student in detecting and interpreting kinesthetic reports of muscle change.

The skeletal study was followed by five doctoral studies of my students at New York University. These students were Goddard DuBois, Alma Kelly, Ellen N. Duvall, Laura J. Huelster, and Harry G. Oestreich. Since that time there have been a number of various experiments in physical education which were designed to study the speed of learning when visualization of the patterns of movement of a skill preceded its practise in actual performance.

Thus there has been continued substantiation, both in more recently revealed facts and in research, of Miss Todd's concept of posture and the validity and effectiveness of her method of teaching. This method, however, remains as unorthodox today as it was when *The Thinking Body* was first published in 1937, which is, possibly, an indication that the struggle between indoctrination and imaginative, creative thinking is all too often long and arduous, especially in the field of education.

LULU E. SWEIGARD

Tomkins Cove, New York
April 1968