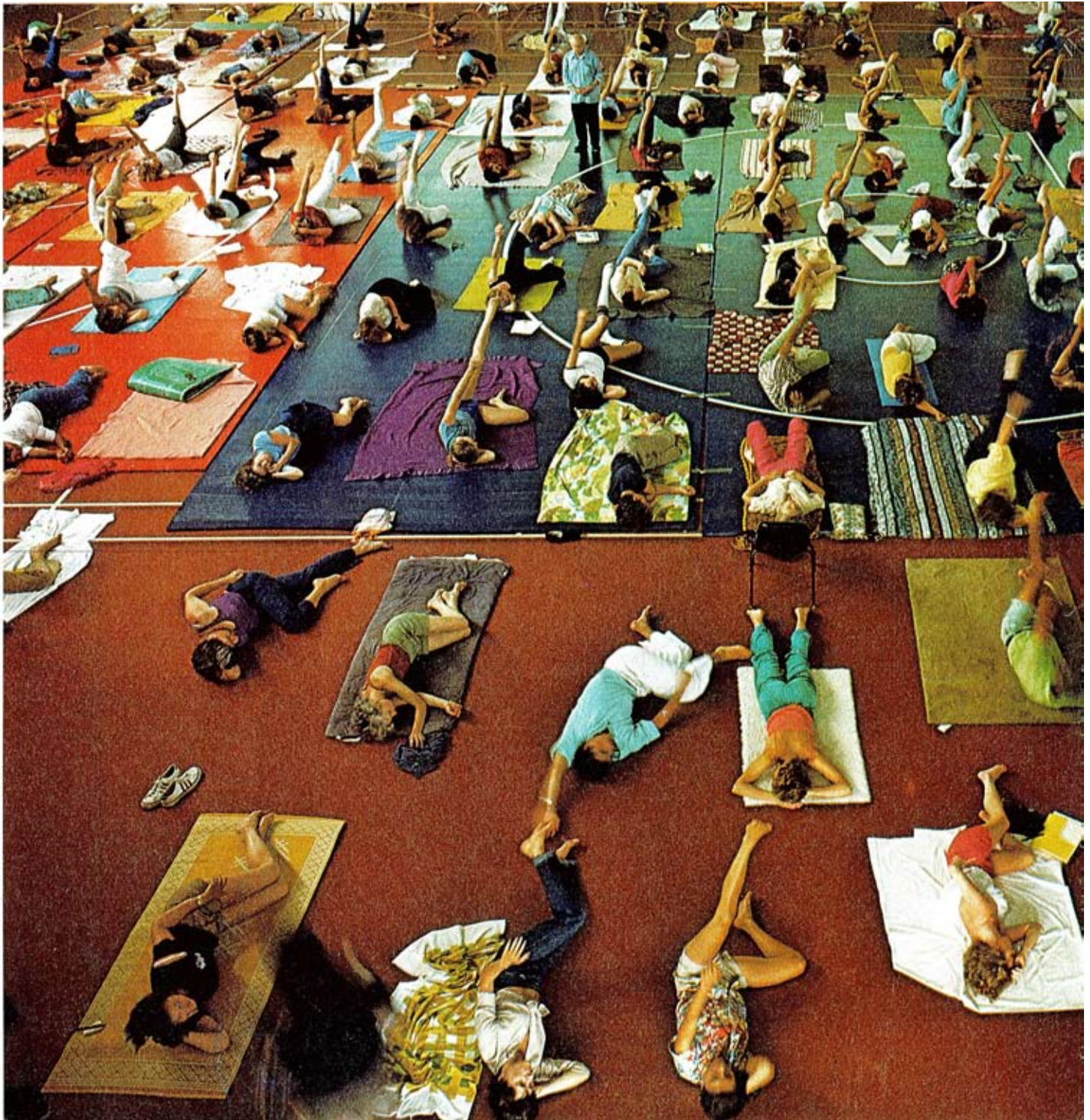
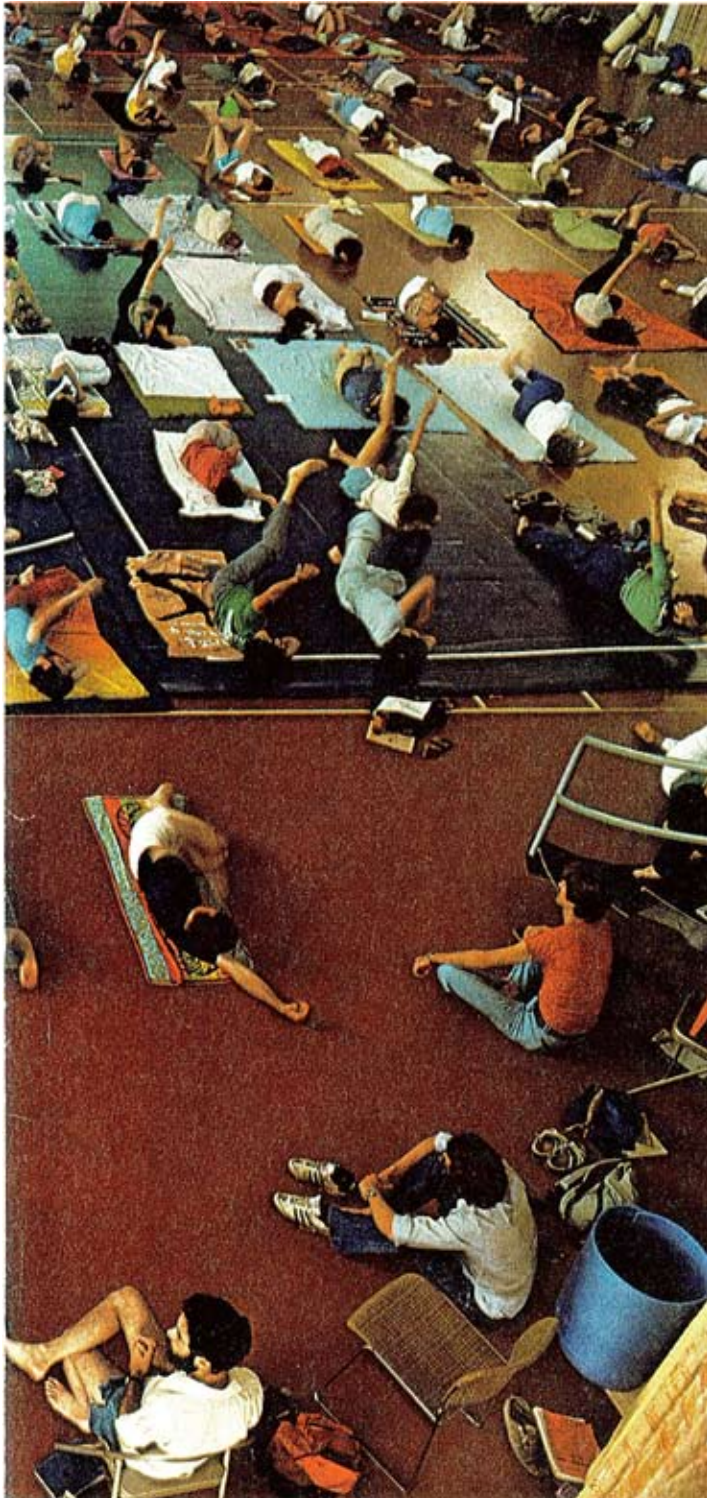


Teaching the body how to program the brain is Moshe's 'miracle'



An Israeli scientist teaches subtle exercises that appear to help invalids, athletes and everyone else to function at a higher level



The little boy enters, his mother at his side. Seemingly unfazed by the audience turning to watch him, he heads directly toward Moshe Feldenkrais, who is in Toronto to hold a series of workshops. The boy has cerebral palsy. His gait is stiff and ungainly, and he leans for support on a wheeled walker. As he approaches, Feldenkrais points out how the boy's knees rub together; they have spastically locked into position for years. "The doctors want to cut his adductor muscles," says Feldenkrais, in an accent that is part Russian, part British, part Hebrew. (The adductors are the long muscles on the inner sides of the thighs that draw the knees together.)

The boy stops expectantly in front of Feldenkrais, who is sitting on a stool at the foot of a cot. He tells the boy to take off his shoes. "Notice," He says, "that Ephram's heels do not touch the floor."

Ephram lies on the cot and Feldenkrais, with his strong hands, begins to touch and manipulate—at first ever so gently, with tiny movements and pressures. The boy begins to relax, though he looks very attentive. "His breathing is getting much easier, you notice," says Feldenkrais. "His eyes are moving to the right as he listens carefully—not to my words, but to the internal language, the messages between the muscles and the brain."

His hands are moving slowly down the boy's distorted body as he talks. He works silently for a while on the feet and legs, in a listening attitude, occasionally nodding or grunting with satisfaction. He is probing sensitively for responses and connections he recognizes from years of experience with hundreds of pupils. (Feldenkrais has only "pupils," never patients. He does not give treatment, only "lessons." He claims to be simply a teacher.)

Soon, working carefully, flexing the boy's legs, Feldenkrais has managed to cross one knee over the other, without forcing or hurting. The boy looks really pleased. "This is the first time he has been able to cross his knees," say Feldenkrais.

He now uncrosses the boy's knees, which remain slightly separated, no longer locked in place. Feldenkrais makes a fist, places it in the new space between the knees. "Now, Ephram," he says. "Please, can you press your knees against my fist." Then: "Come on, you can do better than that! Close your knees on my fist as hard as you can." He keeps it up, and Ephram, no longer relaxed, is now straining mightily with the weak muscles on the inside of his thighs, an unaccustomed workout. Soon, "listening" carefully with his fist, Feldenkrais is satisfied that the time is right.

"All right, Ephram," he says, "you don't have to close your knees any more. You can open them now." With clear

*Standing at left rear, Moshe Feldenkrais instructs a class at Hampshire College in Massachusetts.
Photographs by Richard Howard*

relief, Ephram relaxes, and opens his knees-all the way.

“See how much easier it is to have your knees open, you don’t have to do anything at all.” The boy moves his legs in and out, in apparent disbelief, then bursts into a peal of delighted laughter.

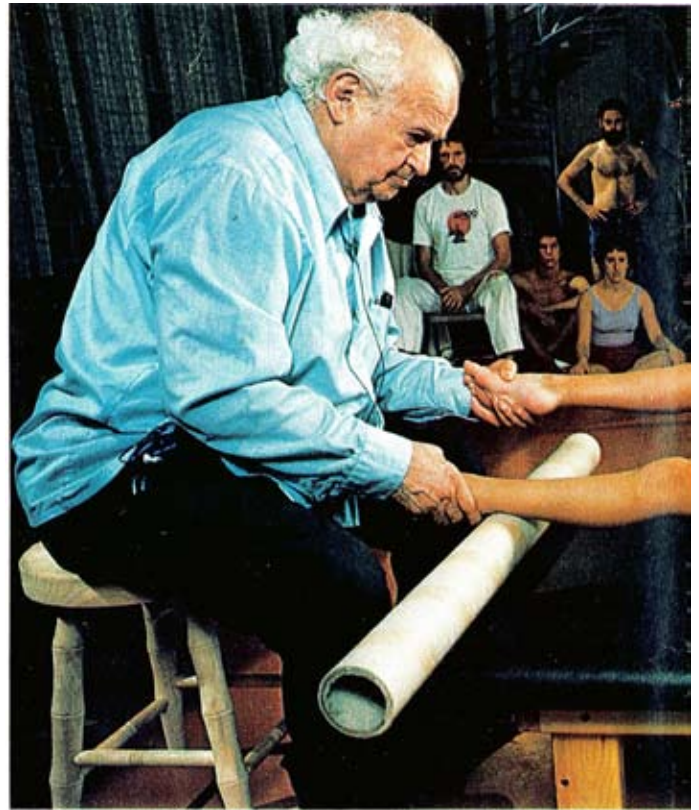
When he leaves, he still needs the walker for support. But his knees no longer rub together.

At 76, Moshe Feldenkrais bears a resemblance to his longtime friend and supporter, the late David Ben-Gurion—the same strong face, the same nearly bald head with its halo of upward-curling white hair, the same short powerful build. What he does, though always difficult to explain in quick and simple terms, is apply principles and exercises that help the body program the brain so that the whole mind-body system benefits. Moreover, his techniques are eminently teachable, and he does teach them—to a long-term core of devoted students in Tel Aviv, where he now lives; at workshops all over the world; and in the United States, principally in San Francisco, where he spent several consecutive summers training a cadre of pupils, who have fanned out across the country to be teachers themselves. Most are associated with the Feldenkrais Guild in San Francisco.

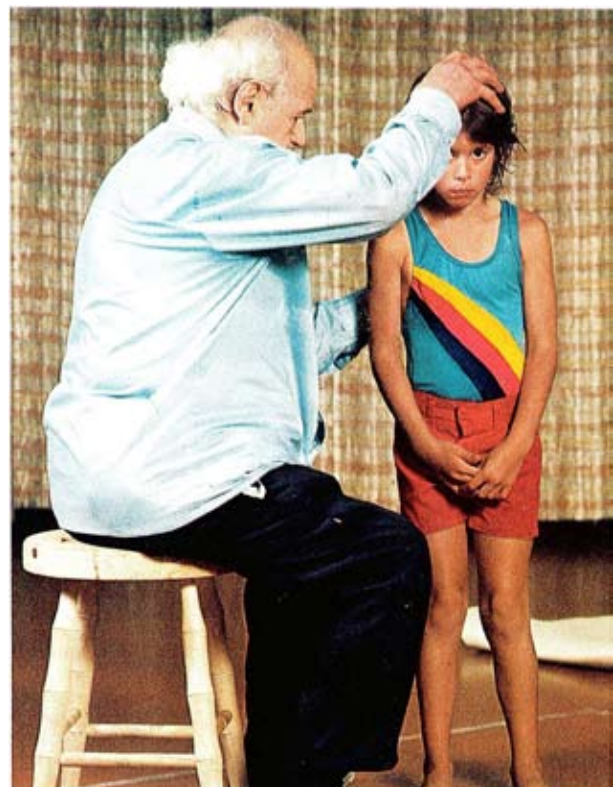
This year he started a new series of nine-week professional training programs scheduled to go on for the next two, possible three, summers at Hampshire College in Amherst, Massachusetts, with more than 200 eager new students from an astonishing diversity of backgrounds as well as many of the old graduates who feel they have much more to learn. On visitor at Amherst was Julius Erving—“Dr. J.” of basketball fame—who was impressed enough to plan some private Feldenkrais lessons of his own. Another was Jack Heggie, who has put together a booklet called *Improve Your Skiing*, based on Feldenkrais training techniques.

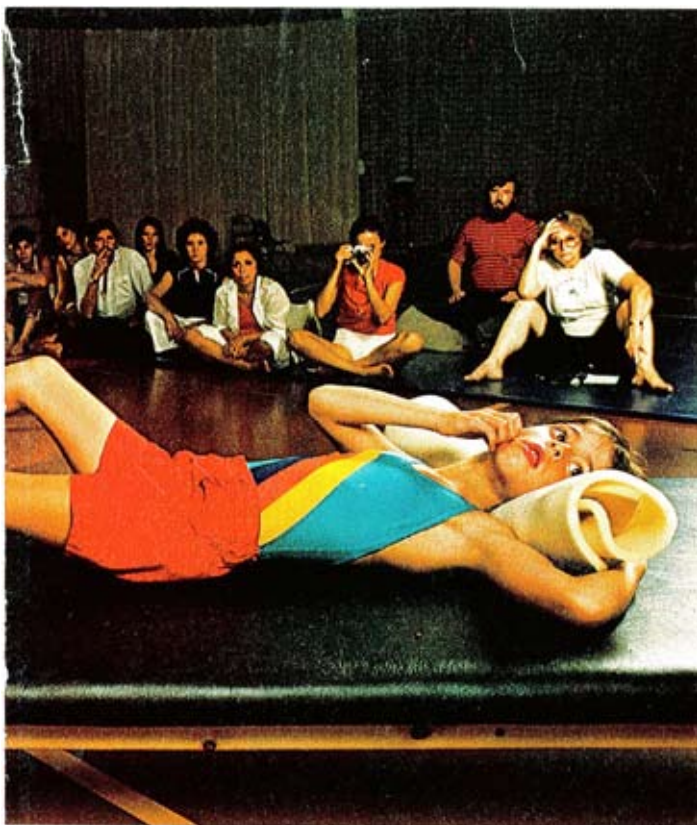
Other pupils and admirers have included violinists Yehudi Menuhin, director Peter Brook, neuropsychologist Karl Pribram, the late anthropologist Margaret Mead and David Ben-Gurion. (When journalist Charles Fox questioned him about famous people, Feldenkrais scoffed at a “social registry,” saying “nothing is more important to me that the work I am doing. It is the work that deserves what space you have.”)

Feldenkrais is not an M.D. Before he became, almost by inadvertence, a mind-body guru—embraced by the holistic-health, humanistic-psychology and New Age movements—he was an engineer with degrees in both mechanical and electrical engineering as well as a physicist. He got his science doctorate at the Sorbonne, studied with Frederic Joliot-Curie, and worked on the French atomic-research program as well as the British antisubmarine program. While cultivating his mind, Feldenkrais had always been interested in the body’s mechanics. Among his other activities, he excelled



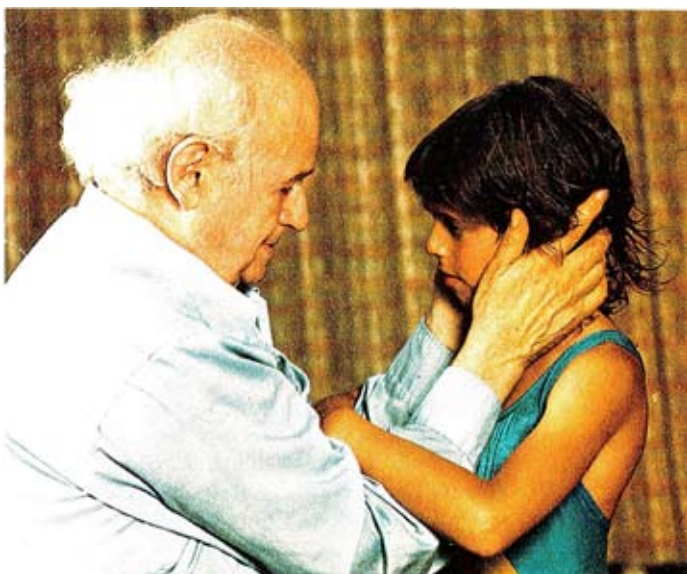
Feldenkrais works with Helena Carleton, who has mild cerebral palsy, to make her aware of contraction in calf muscle. Since her lessons, her mother says, Helena now “sees her body as something she can heal.”





Below Left: Feldenkrais supports Helena's back with one hand while he gently moves her head with the other.

Below: moving her head, he has put Helena's arms on his for support, "to make her feel safe."



as a judo master and soccer player. In fact, it was the flaring-up of an old soccer-inflicted knee injury that first led him to supply his engineering mind to the mechanics of body and brain-a task that soon became his absorbing preoccupation.

"In Israel now," says Avram Baniel, a professor of industrial chemistry at the Hebrew University in Jerusalem, "I consider him a national treasure." Baniel, who has been a long-time Feldenkrais-watcher, says, "If I have ever met a genius in the flesh, it is Moshe Feldenkrais."

This genius rating is enthusiastically seconded by Robert Masters, co-director with his wife, Jean Houston, of the Foundation for Mind Research in Pomona, New York. Masters has been for years both a student and teacher of many of the world's body-mind systems, ancient and modern Oriental and Occidental, from F.M. Alexander to Zen. "Feldenkrais is the man who has gone further than anyone else, past or present," says Masters. "Employing his methods, even I can do some amazing things for people. And the potential applications of it have scarcely begun to be realized-they are clearly useful throughout life, from early childhood to advanced old age."

LEARNING TO WALK WITH GRACE.

The first time I met Moshe in his cramped New York hotel room, he was giving a lesson to Sarah Rosinsky, a young woman with cerebral palsy whom he had "taught" previously in San Francisco. When she heard he was back in the country, but not coming west this time, she had flown in to have a few sessions. Moshe, she related months later, had not only taught her to talk and breathe more freely but also to walk with grace and balance, something which helped her go through a pregnancy in comfort and without falling. "Before I saw him, I had perpetual scabs on my knees," she said.

Journalist Fox, whose own movements were affected by multiple sclerosis, wrote that after only one session with Feldenkrais "there was a very peculiar rush of sensation from feet to brain. Intuitively, I sensed that this was a transmission of vital information."

In cases like these and hundreds more-including the one he writes about in his slender, fascinating book, *The Case of Nora*-Moshe's ministrations are often perceived as therapy, as healing. But Moshe protests: "I don't know much about diseases-only what's necessary to understand them in my terms. If someone says to me, 'I have a disease, I have cerebral palsy, I have multiple sclerosis, I have osteogenesis imperfecta'-I know what these mean only in terms of body activity. I don't need to know anything about 'cures' either. I do know that a disease given a name, especially if it is also labeled 'incurable,' can have self-fulfilling effects, I also know that if a person is having troubles with his movements,

I can probably improve the movements, and thereby improve his health and well-being.

“And you know what?” he adds, lifting his eyebrows in mock surprise. “When a person is healthy, it turns out that he is not ill!”

Improvements-these “routine miracle,” as one of Feldenkrais’ followers has called them-are usually brought about on a one-to-one basis through what Feldenkrais terms “Functional Integration” (variations on the techniques he used with the boy Ephram in Toronto, usually with the teacher actually manipulating the pupil’s movements). The other aspect of Moshe’s work he calls “Awareness Through Movement,” usually carried out through group workshops. These are more like conventional exercises in format, with the teacher guiding the class with words rather than by personal manipulation. Awareness Through Movement-which is also the title of Moshe’s most popular and accessible book-is of special interest to professionals who want to fine-hone their skills-dancers and musicians, for instance; but it is intended for everyone, for people who want to improve their awareness, their physical and mental performance.

WE ARE ALL BRAIN-DAMAGED

Moshe doesn’t like to emphasize the separateness of Functional Integration and Awareness Through Movement, other than as convenient labels for doing essentially the same thing in different ways. “I especially don’t like it,” says Moshe, “if the distinction is made that one is for ‘sick; or ‘brain-damaged’ people, and the other is for ‘normal, healthy’ people. Which of us, after all, is not brain-damaged, I the sense that we allow many areas of our brains to atrophy through misuse or non-use? We settle for so little! As long as we can get by,

we let it go at that. We can have terrible posture and movement patterns and habits which are distorting and damaging to our bodies and brains-and still be classified as ‘normal.’ Most of us use perhaps five percent of body-brain potential. Who are we, then, to call other people brain-damaged simply because their particular deficiency produces visible effects that we label ‘disease’?”

I remember the first Feldenkrais exercise I tried. Jean Houston told me to lie on my back (many feldenkrais lessons are done this way to relieve the body of the antigravity efforts it routinely exerts I the standing position) and go through quite a repertory of very tiny movements, all on the right side of my body, from head to toe. As one example, with my hand barely off the floor, then back, then up again, then back. Tiny motions are not necessarily easy motions, especially when repeated 20 or 30 times, because we are not used to making tiny muscular movements voluntarily.

At the end of that first lesson, having pretty thoroughly worked on my right side, and not at all on my left side, Jean told me to stand up. “Does the right side feel any different now?” she asked.

“I guess it does, somehow,” I said, trying to find words to clothe vague sensations.

“It ought to,” said Jean. “You look like a Picasso!”

I went to the mirror. Jean had exaggerated, of course, but there was a noticeable difference. My right eye seemed somewhat larger. The muscles on the right side of my face seemed more relaxed. My right shoulder looked lower than my left.

Vivid use of the imagination is an important part of the Feldenkrais Method. I remember doing what seemed at the time a silly exercise. I was sprawled on the ground, face down, with arms and legs spread-eagled. I was told to imagine that I had a continuous groove running all the way from the tip of my left hand, down my arm, then running from my left shoulder diagonally across my back down to my right buttock, then down my right leg to the heel. (Later, the imaginary groove ran from my right hand to my left heel.) Then I was asked to imagine a tiny steel ball that I was to propel along the entire length of the groove, through the use of whatever muscles I wished-only I was not to get up or to move my arms or legs from the spread-eagle position. I can tell you that, in concentrating on this activity, I underwent a lot of unfamiliar sensations and exercised a lot of tiny muscles I didn’t even know I had. And that is part of the Feldenkrais idea:

The motor cortex has many connections and nerve cells that are directly related to specific muscles that produce specific movements. If the muscle patterns never change-and enormous numbers of them never do, especially after childhood (this is true even of professional athletes)—then those areas of the brain remain in fixed patterns. The more completely you utilize your entire muscular



Student tries unaccustomed movements, using rarely utilized muscles to stimulate the brain.

apparatus, says Feldenkrais, and the more aware you are of those movements, the more will the brain be activated-and the-activated regions will stimulate adjacent areas. The more parts of the brain that function well, the better the whole brain will function.

Feldenkrais has devised thousands of exercises. One does not, of course, have to do all of them all of the time-only a few at a time as reminders. Some exercises have to be done only once-and the brain-body has learned its lesson. "So smart is the brain, when we permit it," says Moshe, "that even after doing something a million times the wrong way, doing it right even one time feels so good that the brain-body system recognizes it immediately as right."

So, in some instances, he wants us to become aware of a deficiency or a habit only so that, having substituted a better way, we can forget it. We tend, he says, to be mainly aware of the front and upper parts of our body, very little of the back and lower parts. He would like us to be aware of the entire surface of the body, as well as the joints and skeletal structure. He wants us to be aware that there are muscles constantly holding up our eyelids, holding up our jawbones, against the pull of gravity; that the flexors and extensors of our legs are in constant use (more likely, misuse), keeping us stable in the Earth's gravitational field. By being aware, he holds, we will understand how much unnecessary tension we have, how much pleasure and grace we miss, how inefficiently and stressfully we live our lives.

In sum, we can, with the conscious brain, instruct the body to move in ways that will in turn instruct the brain to permit the body (and hence itself) to function at a level much closer to its full human potential. Through awareness, he believes, we can learn to move with astonishing lightness and freedom-at almost any age-and thereby improve our living circumstances not only physically, (he says we may even find ourselves an inch or two taller!) but also emotionally, intellectually and spiritually.

Moshe would like to devote his remaining years and

energies to consolidating his theories, to teaching more teachers, to completing the additional books he feels are necessary to round out his work. "Even without any further contributions to our knowledge, however," says Jerry Karzen of San Francisco, an epidemiologist turned Feldenkrais teacher, "Moshe already represents a revolution in human health. He may not call what we do therapy, but if it makes people better, what we call it doesn't matter."

Albert Rosenfeld, who has won many major science-writing awards, last wrote for Smithsonian on sociobiology in the September 1980 issue.



At a two-day workshop, the teacher autographs copies of his books for some of his students.