The Body Has a Mind of Its Own

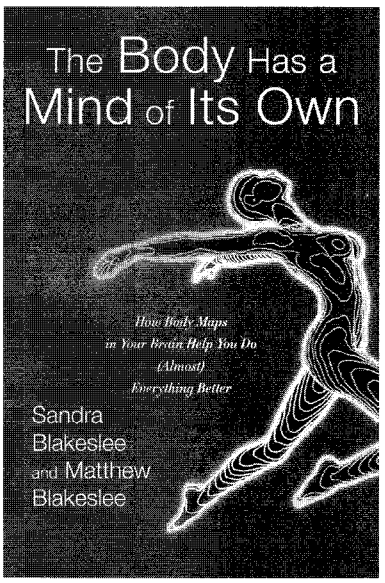
by Sandra Blakeslee and Matthew Blakeslee

By Kevin Frank, Advanced Certified Rolfer® and Rolf Movement Practitioner

In the 1930s, a neuroscientist named Wilder Penfield was able to map how each part of the brain's sensory cortex corresponds to different sensory regions throughout the body. We all encountered a version of his map, called the "homunculus," in anatomy class. The hands, face, and feet are huge in comparison to everything else because there is vastly more brain involved in registering signals from those parts of the body. It makes for an amusing but logical picture of a human body.

Since Penfield's era, neuroscientists have learned a lot more about our body's way of mapping itself. For two decades, there has been an explosion in research about the function of the brain in relationship to motor control, including the function of body maps, and their plastic nature. For example, we know that the representation of body regions in the brain change proportionally in response to perceptual and behavioral changes in a person's life. There are also many body maps in the brain. Some involve conscious awareness; others work quietly behind the scenes. Some involve movement or imagining movement, and some inform sense perception. These kinds of discoveries are the substance of *The Body Has a Mind of Its Own* by Sandra Blakeslee and Matthew Blakeslee (Random House, 2007).

As structural integrators, we have many reasons to love this book. We are in a position to benefit from knowledge about body maps and their plasticity, because this is where hard science shows how structures in living beings can change. Postural structure is a form of coordination that is necessarily informed by body maps. Body maps include the space surrounding the body, as well as the body itself. The body and its immediate environment of "peripersonal" space are represented in the brain. When this body and space map changes, such as after an accident, the way a person stands and moves changes along with it. Structural integrators help people revive function that has been impaired by faulty or missing places in their body map by differentiating fascia, and help people differentiate their experience of their body and environment.



The Blakeslees (Matthew is Sandra's son) are third- and fourth-generation science journalists. We have come to know Sandra's writing through her articles in the *New York Times* Tuesday Science Times section on topics like the "Enteric Brain," "Cells that Read Minds," and "The Brain's Moral Center." In this new book, the Blakeslee team surveys advances in neuroscience, with emphasis on recent discoveries, and delivers a synthesis of what is most relevant about how we perceive and move. Each discovery is accompanied by creative, practical examples that show how we learn, how we move, and what can go wrong in motor control.

This book is a good source to find out about "mirror neuron" theory, a group of discoveries that explain how we learn to move through watching other people move. It also explains why we all have the ability to "body read," to empathize with another's movement. This book covers a broad catalog of phenomena with a few delightful surprises. Reading about them may change how you think about fascia and structural integration.

The book was published at a poignant moment; it coincided with the first Fascia Research Congress in Boston in October 2007. Out of many fascinating papers and presentations comes the impression that fascial networks link every cell of the body together, mechanically and biochemically. Injury causes fascia to defend itself and skillful touch helps fascia restore itself. But even if skillful touch helps fascia to heal, how does fascial touch improve posture? How does touch change how bodies stand and move over time?

Researcher and Rolfing instructor, Robert Schleip made a number of contributions to the fascial conference. At one presentation, he explained that where fascial planes intersect, we find the greatest number of mechanoreceptors. These mechanoreceptors are a robust source of information for motor control. A logical conclusion is that much, if not all, of the work a structural integrator does by making sensory contact with fascia serves to update and inform the places in the brain that collect information for movement: the body map.

Another major topic in *The Body Has a Mind of Its Own* is a discussion of the body schema/body image model, a historically durable and clinically useful construct in the world of neuroscience. Briefly, body image is the part of motor control influenced by our personal history. Body schema is the capacity of the body to respond through automatic coordination. The interplay of image and schema is a large part of what structural integration is about. The body image/body schema paradigm clarifies the process by which a new movement is learned: first, through body image, and then later as it becomes part of body schema. Just as important, body image can be an obstacle to new movement acquisition, and you address body image to negotiate change of movement or change of posture. Work with body image and schema is one feature that distinguishes structural integration from other manual therapies.

Other topics covered in this book include: out-of-body experience, the mechanisms of pain and perceptual strategies for alleviating

pain, phantom-limb rehabilitation, and use of "proprioceptive underwear" to mitigate anorexic behavior. It's an exciting read; each time I picked it up, I thoroughly enjoyed reading it.

As of now, *The Body Has a Mind of Its Own* deserves to be put alongside other essentials in a structural integrator's education: books like those by Dr. Rolf, or *The Thinking Body* by Mabel Todd. Blakeslee and Blakeslee provide a window to research that validates the possibility of meaningful change in this body-mind.