

## **The “functional integration” of sleep**

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**The Sounder Sleep System™** is a unique method of somatic education offering “self-healing for insomnia and the stress of life.” The system uses gentle, synchronized movement and breathing techniques called **Mini-Moves™** to relax your body, calm your mind, and lull you to sleep. In addition to my own ideas and observations, the system draws on a variety of sources, including yoga, qigong, and various mediation techniques, as well as the theories and practice of the great modern master of movement and awareness, Moshe Feldenkrais.

Since many of the professionals who join my Teacher Training Programs have been trained, like me, as teachers of the *Feldenkrais Method®*, I often find it useful to clarify exactly what my system has in common with the Feldenkrais Method. In this short talk, I want to address one of the key areas of convergence between the **Sounder Sleep System** and the *Feldenkrais Method*. That is Dr. Feldenkrais’s brilliant theory of *functional integration*, or the nature of action, and the application of that theory to the act of sleep.

It’s a funny thing, but I’ve found that many of my colleagues in the Feldenkrais community are only vaguely familiar with Moshe’s ideas about sleep. They are not necessarily aware that

Moshe always treated sleep as a basic human function that is just as essential and indispensable, as sitting, standing, walking, eating, breathing, the sexual act, or any other action necessary for life. Which indeed it is!

For example you will find that in *The Potent Self*, where Moshe gives one of the clearest and most condensed statements of his theory of reversibility, sleep is an essential part of the equation. “Reversibility,” he writes, “is a feature of all correct action, even sleep.” And he goes on to speak of sleep not as just one example among many, but rather as a paradigm case of reversibility in human function.

Similarly, when in that same book Moshe elaborates the theory of functional integration, sleep is explicitly included. It’s a rather long passage, but I would like to cite it in full, and then extract from it a shorter statement that presents Moshe’s ideas about the functional integration of sleep in a nice, tight package that we can easily analyze and digest. Here’s what he wrote. It’s from the English edition of *The Potent Self*, on page 93.

“Our food habits, *sleep*, regularity of rest, sex habits, and all the other things we do are performed by muscular acts. And what is even more significant is that the entire organism must be brought into a state in which it obeys and executes the projected acts. Every muscular voluntary action is associated with a skeletal attitude, a vegetative state of the body with a

corresponding emotional background. And, though indirectly, we have significant control over these states, mainly through voluntary motor centers.”

Well, that’s quite a mouthful, isn’t it? In my understanding, this expresses in a nutshell the theory of functional integration, that is, the way all the contributing parts of a human being must be coordinated, or in Moshe’s terminology “integrated,” to produce any given function, whether it’s eating, sleeping, sex, or anything else.

I have been known to give an hour-long lecture based on this passage. But I don’t want to keep you here that long, so I’m going to cut this long passage down to its essentials—leaving only the bits that are directly relevant to the function of sleep. Here it is, divided into a series of four discrete propositions:

1. Sleep...[is] performed by muscular acts.
2. And what is even more significant is that the entire organism must be brought into a state in which it obeys and executes the projected act [of falling asleep].
3. [The muscular acts leading to sleep are] associated with a skeletal attitude, a vegetative state of the body with a corresponding emotional background.
4. And, though indirectly, we have significant control over [our sleep], mainly through voluntary motor centers.”

So there you have it. From that larger statement of the general principle of functional integration, we have extracted a very concise statement specifically addressing sleep as a human function. What is its meaning? What does it tell us?

To begin with, it tells us that sleep is not an occult phenomenon, not some mysterious suspension of action and of consciousness that happens we know not how. Rather, says Moshe in our first proposition, sleep is a physical action; it is “performed by muscular acts.” Dr. Feldenkrais is true to form, isn’t he? This is the man who said, “Movement is life. Without movement, life is unthinkable.” Even when he’s talking about sleep—that is, the cessation of all action, all effort—he thinks, quite rightly, in terms of muscular action, of movement!

Okay, so what are those muscular acts that we perform in order to sleep? You already know the answer: Finding a nice dark, quiet, safe place—preferably one that is not frequented by saber-toothed tigers or those huge crowned eagles that, as we have only recently learned, were one of early man’s most effective predators. Next, preparing some sort of bedding—just a soft, supportive surface to lie on, and perhaps some skin or cloth as a blanket. Then, lying down or at least partially reclining, closing your eyes, finding a comfortable, fully supported posture, and finally, lying still, breathing softly, and so on. That’s proposition number one.

Now, in the second proposition, we discover something “even more significant” than those muscular acts alone. We are told that “the entire organism must be brought into a state in which it obeys and executes the projected act [of falling asleep].” And what is that state? The answer is in the third proposition: “[These muscular acts leading to sleep are] associated with” three things: “[1] a skeletal attitude, [2] a vegetative state of the body with [3] a corresponding emotional background.” When these three elements are in accord with our voluntary muscular actions, Moshe argues, then and only then will we achieve the functionally integrated state that will allow us to fall asleep.

So let’s take the three elements one at a time. What is the skeletal attitude associated with sleep? You already know it—partially reclining or lying down on your back, on your side, or on your belly. By the way, we can also fall asleep on our feet or even behind the wheel of a car—but those are not voluntary actions, so they fall outside the scope of this discussion.

And then we have this second component, the “vegetative state of the body” associated with sleep. What in the world is that? Here Moshe, writing in the 1940’s, uses a term that has since fallen into disuse, so let me clarify. “Vegetative state” refers to the state of the *autonomic nervous system* that regulates all the involuntary life-support systems of the body, and to its controlling mechanisms in the brainstem.

The autonomic nervous system, of course, is divided into two antagonistic branches, one of which, the *sympathetic*, stimulates physiological arousal and psychological vigilance, and is associated with the stress response and the so-called “fight or flight” reaction. The other branch of the autonomic nervous system, the *parasympathetic*, induces rest, recuperation, digestion, and the conservation of our vital energies. In short, the sympathetic is an *excitatory* mechanism, and the parasympathetic is an *inhibitory* one.

With that clarification, we can now say that the vegetative state required for sleep is one in which inhibitory, parasympathetic activity dominates, and there is a decline of excitatory, sympathetic activity. When that happens, several measures of metabolic activity decline markedly, including blood pressure and heart rate, oxygen consumption, muscle tone, core body temperature, and cerebral processing rate. We gradually descend into what is called a “hypo-metabolic state,” a state of reduced metabolic activity, and that is exactly what we need in order to fall sleep and stay asleep. (The exception to this is the REM phase of sleep, during which metabolism becomes unstable, and the brain is highly activated—but that is the subject of another talk.)

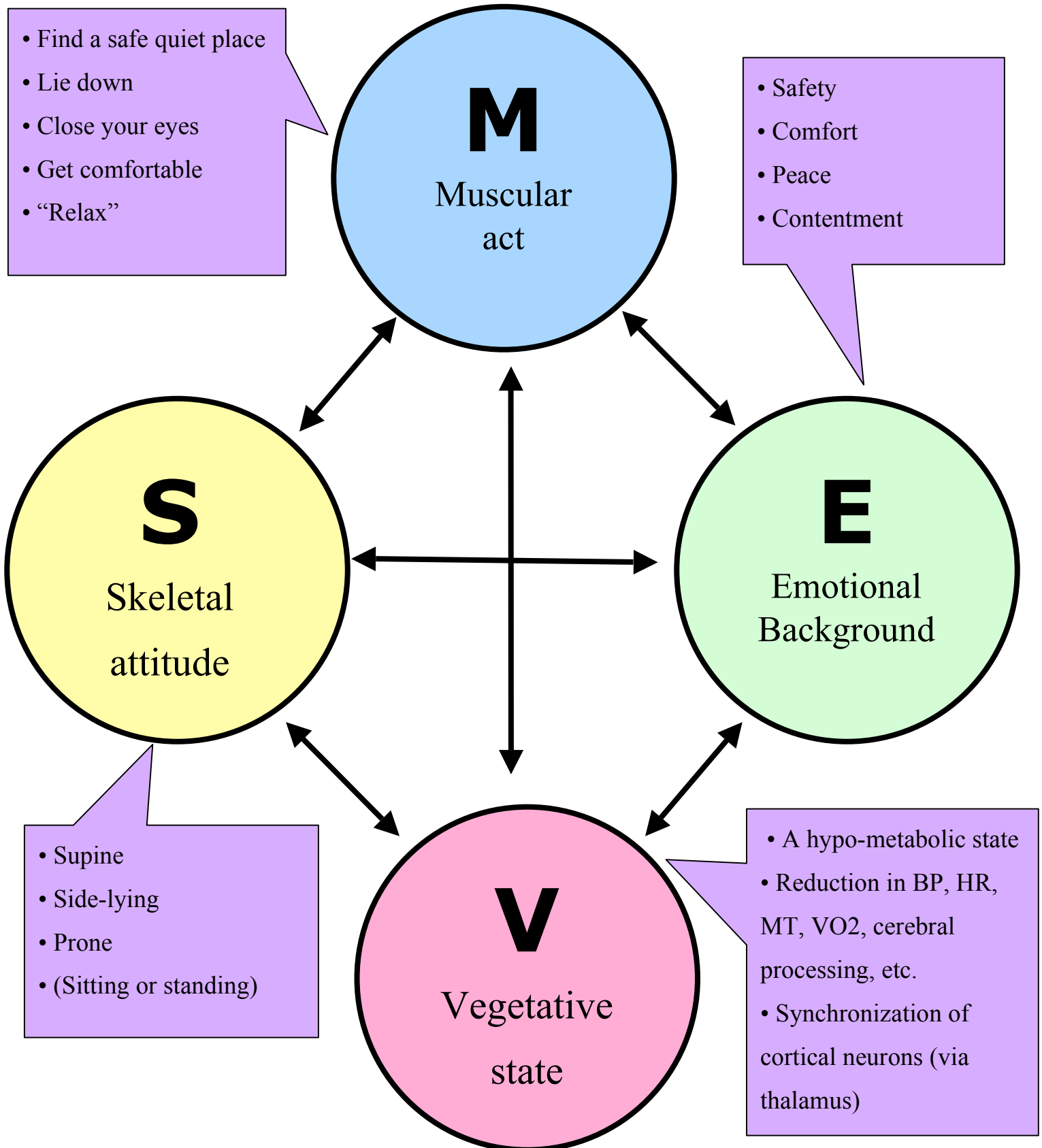
And finally, the third component of this equation is the “emotional background.” Can you think of what sort of emotional background is required for us to fall asleep? Of

course, it is a feeling of peace, ease, safety, and contentment. In support of this assertion, I always cite research done by the very gifted experimental psychologist Alison G. Harvey at Oxford University. In one of several related studies, she compared the pre-sleep thoughts of insomniacs and healthy sleepers. Insomniacs, it turns out, think about things like finances, relationships, job problems, and other disturbing things while they are waiting for sleep to come. The subject most frequently reported by good sleepers is “nothing in particular.” As this research shows, good sleep requires a tranquil emotional background, a calm, clear mind. And by the way, the converse is also true: a head full of troubling thoughts can keep you awake!

So now we're ready to tally up all the elements necessary for a functionally integrated state appropriate to sleep. [See accompanying diagram.] First, we have the voluntary muscular actions that we do in order to initiate the sleep process. Then, we have the three components I've just described—the skeletal attitude, the vegetative state, and the emotional background—which bring the entire organism into a state which “obeys and executes” our intention to fall asleep. If all of those elements are in accord—and if we need sleep—then we will drift, we will dream, we will doze, and before we know it the sun will be shining in through the curtains and it will be time to start the new day!

# Non-REM Sleep: A functionally integrated state

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That brings us to the fourth, and most provocative of Moshe's propositions, which I take to be a kind of "wake-up call" for us movement educators. In it, Moshe says, "...indirectly, we have significant control over [our sleep], mainly through voluntary motor centers."

Alright, friends and colleagues, I hope you have heard Moshe's wake-up call and taken it to heart! Because as teachers of the *Feldenkrais Method* or any other form of movement education, you are masters of the art of using physical movement as a medium for learning, personal growth, and change. And one area in which the people of every civilized nation need lots of learning, growth, and change is in the area of sleep.

For example, studies of insomnia performed in the US suggest that 60 million people, or 20 percent of the population, suffer from insomnia each year, and the US government records that American doctors wrote over 43 million sleeping pill prescriptions in 2005. The actual figure is almost certainly far higher, according to Saul Kripke, a physician who researches the subject. In France and Germany, an even higher percentage of the population is said to take sleeping pills, for the most part chronically. A study of seven European countries found that the United Kingdom and Germany had the highest prevalence of non-restorative sleep: 16.1 and 15.5 percent, respectively. In a 2005 study conducted in France, Italy, Japan and the US, the

highest rates of insomnia, 37.2%, was reported by respondents in France and Italy.

Those are shocking figures, unless you happen to own a pharmaceutical company, in which case you are probably feeling very tranquil, and therefore ready to take a sweet, blissful nap right now! Those figure tells us that insomnia is now of epidemic proportions, and that sleeping pills, which are really meant only as a last resort in cases of intractable insomnia, have become the first line of defense against it. Tell your doctor your can't sleep, and in most cases you'll be given a pill to take, perhaps for the rest of your life. Case closed.

Meanwhile, our great prophet of movement and self-awareness, Dr. Feldenkrais, has revealed that the problem of insomnia, which we as a society are burying under a mountain of pills, capsules, and tablets, is in fact subject to our control, not through pills and tablets, but mainly through our own voluntary movements. In my humble opinion, we should listen to our prophet, and act in accordance with his prophecy.

The question then is, how? How can we use voluntary movements to enhance our ability to sleep and rest, and more specifically to induce sleep when sleep eludes us? That of course is the subject of the **Sounder Sleep System**, but the answer is already present in seed form in the *Feldenkrais Method* itself. We have all experienced that sleepy, dreamy, drowsy feeling

that comes over us during certain ATM lessons, particularly those involving movements of the hands, eyes, lips, or tongue, and even more particularly when the teacher allows the rest periods between the movements to last a little ... bit ... too ... long. Of course, we movement-education professionals never actually fall asleep during those lessons, but if we wanted to, we could. Isn't that right?

In developing the **Sounder Sleep System** I have adapted and expanded this implicit body of knowledge in a specialized way, directing it toward a single object: better, deeper, more restful sleep. The end product is a suite of brief, repeatable, remarkably effective movement practices that can be easily learned and remembered by any adult, as well as willing children or teenagers from about the age of seven. In most cases of primary, stress-induced insomnia—where there is no underlying disease to interfere with sleep—regular practice of the system will enable anyone to get all the natural, restful sleep they need, when they need it.

Stated simply, the core concept of the **Sounder Sleep System** is that we can use our own movements and breath to induce sleep. Since over 95 percent of all people will encounter insomnia at some time during their lives, this is an essential skill for life. We can use it to help people who are suffering from insomnia now. And we can use it to prepare people in advance, so when insomnia strikes they will know just what to do. That's why we

should be teaching this in schools, universities, hospitals, women's health centers, senior centers, and anywhere else that people go to improve their health and their lives.

And by the way, this is also a very effective way to introduce new people to the concept of movement education. In my experience, it is only a very short step from **Sounder Sleep** for insomnia to *Feldenkrais* for better movement, enhanced self-awareness, spontaneity, and personal growth. When you help people to get better sleep, you'll gain their trust and gratitude, and they will listen sympathetically to anything else you have to say.

So that is my relatively brief introduction to the functional integration of sleep. I hope I did not put you to sleep—yet! In closing, I would like to invite you to train with me in the **Sounder Sleep System**, and join me in sharing it with the general public, who in these turbulent times need it more than ever.

Thank you for listening. May your days be filled with light, easy movement and your nights with restful sleep and sweet dreams! And now, you are welcome have a little nap.