Excerpt from

How Life Moves - An Exploration in Meaning and Body Awareness

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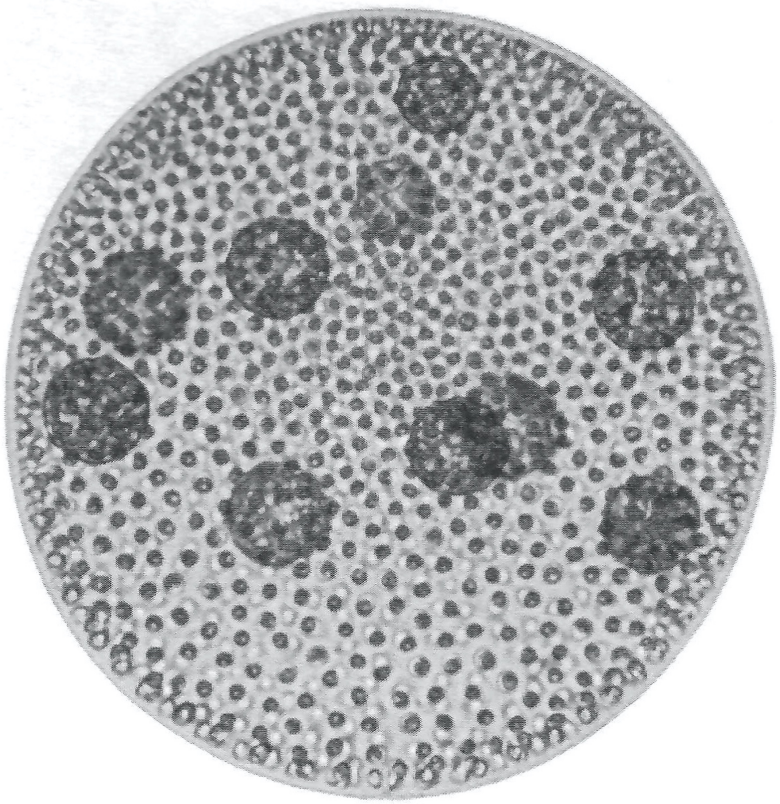

Fig. 5.1. *Volvox green algae colony.*
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CHAPTER 5

The Cell Moves in Its Matrix– Cell Colony

A cell contains a fluid matrix. A fluid matrix also surrounds it. By *fluid matrix* we mean the ocean of water-based liquid that all cells live in. Cells don't live in isolation. This simple fact offers a lesson about our lives: Living creatures are tender and vulnerable and only thrive in situations that offer supportive context. If a person stops feeling connected to community and world, he or she will not thrive. Humans can feel disconnected even when they are not, in fact, alone. There is a difference between having a matrix and experiencing that one has a matrix. The latter is more important because we are so affected by what we perceive.

Context shapes our movements. The space we move in is pregnant with the meaning we make. Our pre-movement involves how we sense our self and is determined by qualities that we sense consciously or unconsciously in our environment. The third step in the evolutionary story is the bridge between sense of self and sense of context. What do we mean by context and how can we use the sense of context to shift the quality of our movement?

FINDING CONNECTION TO MATRIX

How do you find a sense of matrix? Start by grounding the abstraction, "matrix." We describe the intercellular and intracellular matrix as being a living network that connects all parts of the cell to the soup in which the cell floats. This intracellular web also connects to neighboring cells. If you applied this relationship to the way people live, how would this metaphor translate?

Human beings have telephones, postal services, and Internet connections. We have neighborhoods. We have families, friends, pets, business associates, or colleagues with whom we act out the stories of our lives.

People also feel relationship to the Earth, the sky, God or spirit, or nature. Each time we breathe, we take plant breath into us and give back our breath. When we eat, we take creatures and plants into our body and then give most of it back.

People pray or meditate or practice ritual. We have clubs, associations, sporting events, even television.

Does any or all of this constitute matrix?

Matrix can mean mother, or the substance that holds us and nurtures us, as mothers do. The cell derives oxygen from its matrix. It depends on the

matrix for information, for support in all its forms and activities. For a human, the felt sense of connectedness can be matrix. The sense of support, of being in communion, can be the most important support and motivation in our lives.

Emilie Conrad, the creator of Continuum™, mentions that Oscar Ichazo said all search for consciousness is about mother loss. Emilie believes it's more appropriate to say "matrix loss.[1]" In other words, we all search for a context big enough, intelligent enough, and loving enough that we will feel reassured and at peace.

Consider what your sense of matrix is.

What is your relationship to matrix? How do you find it? How do you avoid finding it, if that's what you do? Think of an example in your life where you are acting, or moving, or noticing relationship to matrix.

What did you find out? Compare your discovery with the experience of these three people:

> One woman associates matrix with gatherings in her family's country home. The large group of relatives elicits for her a sense of belonging, a sense of being part of something bigger that is friendly and inclusive. At the end of a warm summer afternoon, she lies in the grass with her niece and watches the clouds, secure in the knowledge that everyone she loves is nearby.
>
> Another person feels best when he's doing a hundred-mile ride with some of his bicycle buddies. He loves being in a pack of men pumping their legs until they can almost pump no more, of feeling the challenging workout while the scenery rolls by; thoughts diminish, anxieties diminish. That is how he senses belonging, a sense of immediacy.
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> A woman remembers giving birth as a time when there was no doubt about who she was and why she was alive. She felt the

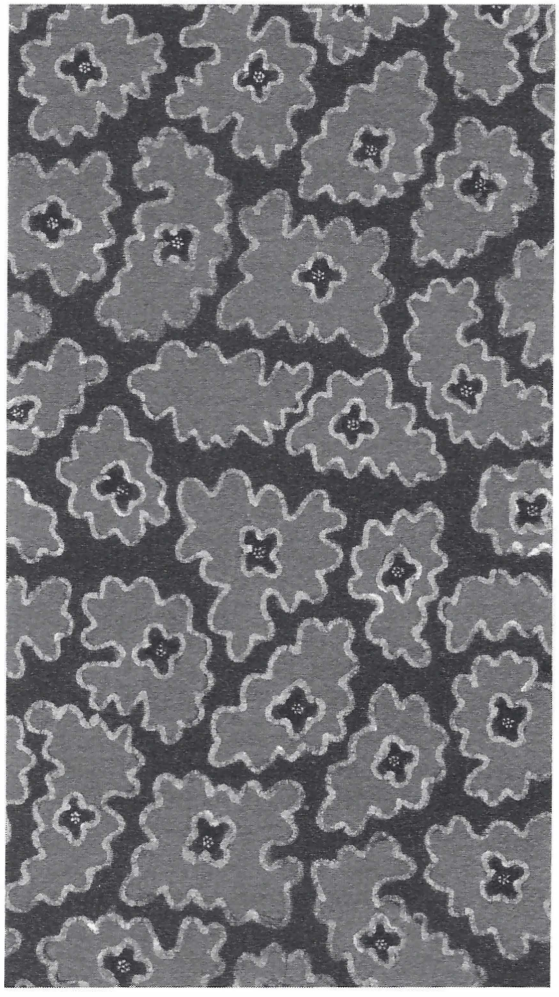

Fig. 5.2. *Cells (detail of Indonesian textile).*

invisible presence of other beings that were with her, supporting her. During pregnancy, she never felt alone. There was a being inside her that knew her at a silent level and that she recognized as seeing her, as being in harmony with her. Her daughter has gone on to find other sources of belonging and this mother loves the moments that they can still cuddle and lose the sense of separateness.

What do these stories do to your sense of matrix?

Now think about how you feel in proximity to other people. Can you both feel your sense of self and feel a sense of others being near you? Does the same felt sense of matrix that arises in an ideal circumstance speak to you when you are in a group of people? Notice what comes up; note it for later.

THE CELL COLONY

There are many evolutionary pathways that led from the single eukaryote cells (collectively known as protozoa) to multi-celled organisms (collectively known as metazoa).[2] The fossil records are ambiguous about the next step from single cell. In present time, however, there is a creature that illustrates one way that single cells have come together to form something new. It is a cell colony called Volvox, composed of flagellate green algae cells (protozoa) that stay together after dividing from the mother cell.

What is the movement from individuality to cooperative association? Each of us faces this movement in our development. Over a billion years ago, this possibility emerged. Starting with colonies of identical daughter cells, cells eventually gained the capacity to differentiate into separate tissues with different functions. This was an important step from single, free-living cells to complex multicellular animals.

In the cell colony, individual cells are mysteriously linked together so the group of cells functions as a single entity. It's hard to imagine human beings performing such a complex and cooperative ballet. Wagon trains crossing the frontier together, basketball teams moving down a court—neither of these examples express the simplicity of cooperation and association of the cell colony. Herds of migrating grazing animals, colonies of ants and termites, flocks of geese taking flight, schools of fish moving synchronously—these examples are closer to illustrating the quality of coordinated movement that the cell colony pioneered.

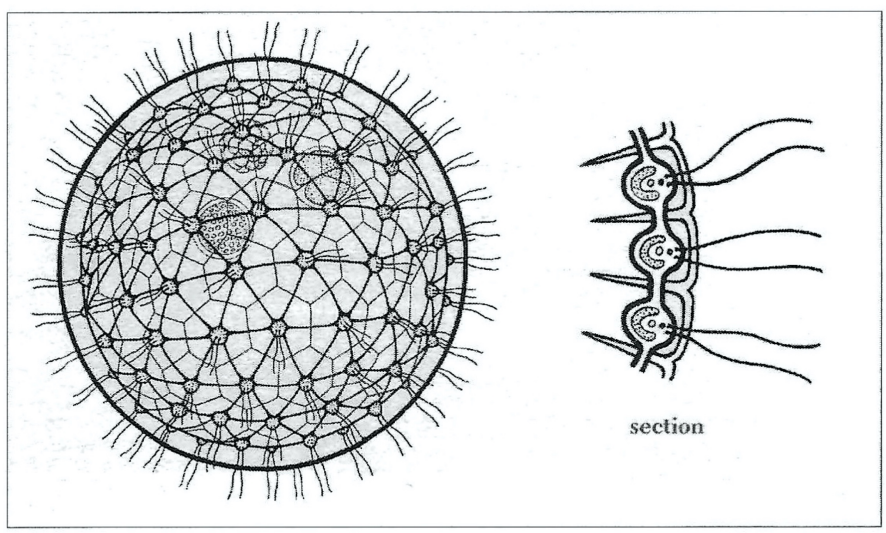

Fig. 5.3. *Diagram of Volvox protozoan cell colony. The outer cells have two flagella, and this colony can actively swim.* (Reproduced with permission from Buchsbaum, R., Buchsbaum, M., Pearse, V., and Pearse, J., *Animals Without Backbones: An Introduction to the Invertebrates*, Third Edition. Chicago: University of Chicago Press, 1987, p. 43.)

How does this coordination take place? What allows a colony of cells with identical DNA to do what most human committees cannot—that is, efficiently and mysteriously work together to move in a common direction, each member providing precisely the right contribution of flagella response so that the whole colony moves together?

The Volvox story is a pivotal place in the evolutionary story in which we observe entrainment. There is resonance and communication among the cells. This phenomenon presently exceeds the ability of science to explain it. In fact, there is very little that explains herd and flock behavior because these behaviors also seem to depend on a resonance difficult to measure.

This resonance, the ability to relate harmoniously, can be demonstrated between the soundboards of musical instruments, or between magnetic devices. Until recently it was not a phenomenon that science accepted as occurring between living creatures. Still, the Volvox story is a simple example of resonant behavior.

A Group Exercise: Entrainment through Resonance

The phenomenon of entrainment can be explored in a movement class.

Divide into two groups (of four or more). The groups take turns moving and observing. Members of the moving group close their eyes and begin to move near each other but not touching. They are directed to follow their impulses to move fast or slow, big or small, and in any fashion that suits their mood or inspiration. The second group just observes for five to ten minutes. The groups then exchange roles. To add to the fun, replay the exercise and tell people to move in as individual a way as possible.

We predict that in both instances, even if you invite intentional individuality, after a few minutes you will see uncanny patterns of similarity. We don't attempt to explain why this happens. Rather we invite you to keep the question open as we visit the evolutionary mystery once again.

Figs. 5.4 and 5.5.
At right and opposite page:
Cell colony exercise: moving in proximity, with inclusive attention.
(Photographs by John Hession.)