



Spiraling Babies

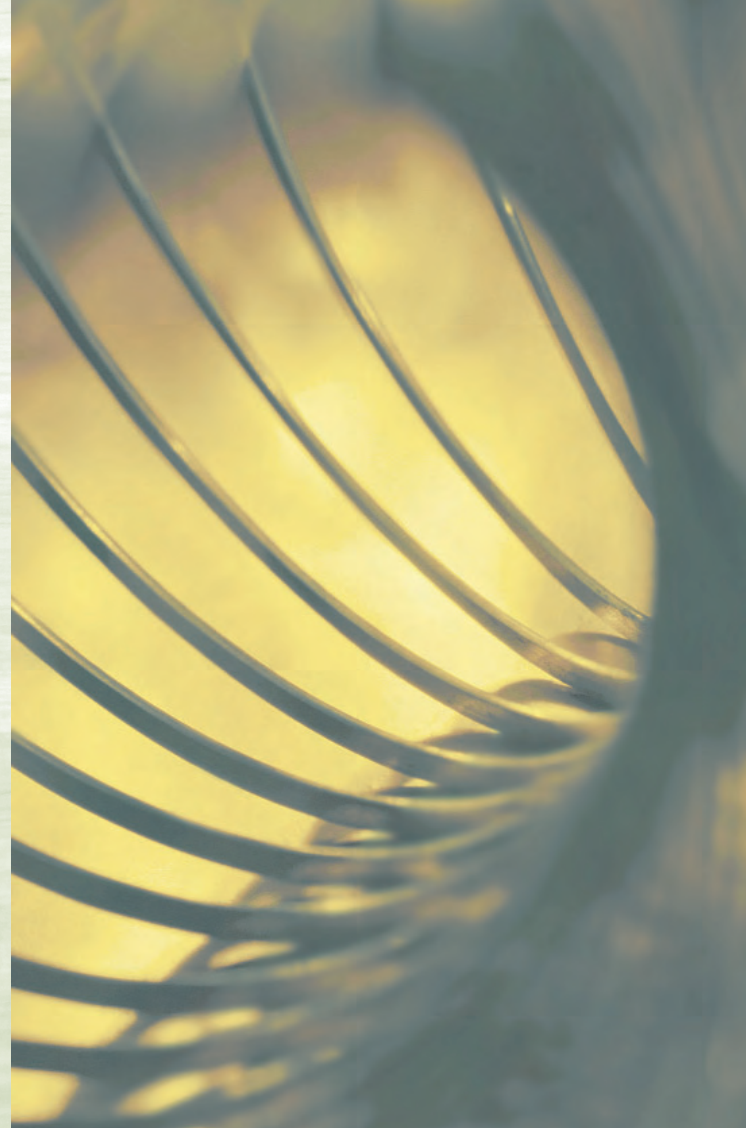
By Raymond J. Bishop, Jr.

A few months ago, I was waiting for my next Saturday client and hanging out with some friends in the common reception area of the office. Our topic of conversation was a wonderfully hyperkinetic child who was moving incessantly and testing his limits as he tried to master walking. As I watched him, I found myself asking this question: what does his system need to function better? I soon noticed a certain restriction between his upper cervicals and his occiput, a lack of rotational ease that caught my attention. As diplomatically as possible, I asked his mother—a fellow practitioner—if I could work on him a bit. She immediately became alarmed as if my innocuous question was a harbinger of some complex explanation of deficits in his developmentally advanced system. Once I reassured her about my intent—“Let’s see if we can free up that little sticky place below the base of his skull”—she readily acquiesced and off we went to my office for a little exploration.

Once we settled in, I became aware that this seven-month-old live wire was just too active for any sort of cradling of the occiput. Since this had been my preferred approach, I was temporarily stymied. The answer slowly crystallized: the key to entry was the transverse processes (TPs) of C1. Sliding in slowly from the sides, I eased into these large landmarks. Before our little friend, Noah, had time to contemplate an evasioneary maneuver, I was in like Flynn. What happened next rather surprised us all. The atlas began to rotate to the left rather quickly and audibly slipped into place. As this occurred, the frenetic little one froze and stared with wide-eyed wonder at this unexpectedly strong yet gentle movement. All I could say to his astonished mother who wanted to know what was going on was: “Well, I certainly have his attention.” There was a brief period of reorienting. Then his prestissimo gyroscope kicked into overdrive. Our subsequent efforts to balance his system were aggressively thwarted so I begrudgingly accepted that this was all he would permit at this time.

I subsequently had an opportunity to observe him for another thirty minutes or so. This allowed me to see not only an improvement in cervical and cranial movement, but I also noticed an accelerated cycling of state changes as the work integrated. He went from hyperactive, to fussy, to needy, to fast asleep within this relatively short time span. Seeing the mood shifts and sensing the rapid adjustments that precipitated them proved provocative. As I work mostly with adults, tracking these ephemeral transitions was quite exciting to me. It seemed to suggest there was something significant about such rotational patterns and that they might be part of some larger spiral patterns.

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This notion was reinforced by a subsequent experience with another toddler. This robust, Hispanic fellow was a bit older, about eighteen months at the time of our first meeting. His aunt, a regular client, had brought him in because of his rather difficult delivery. The details of the

problems with his birth were unclear as his mom spoke little English. What the women were mostly concerned with was a rather prominent bump below the left orbit, which seemed to have been a by-product of manual intervention during his passage through the birth canal. But what attracted me was some unsteadiness on his part.

I decided to explore things a bit more globally, testing the integrity of his cranium and pelvis. A gentle palpating of these regions indicated a strong clockwise spiraling pattern that literally pulled me in and nearly spun me around in my chair. The metaphor this experience evoked was that of being forcibly twisted as I passed

through the birth canal. Yet, my empathic sensation was more than mere metaphor and seemed to have a lot to do with some support problems this fussy little charmer demonstrated as he explored the room and repeatedly hid from me behind mom. Once we got to work, the strength of the pattern and the speed with which it eased off raised a series of questions. These questions in turn led to a rather meandering search for information not only about spiral patterns in utero and during the “descent of the child,”¹ but also their impact on early childhood development.

For anyone who has ever considered the frequency of spirals in nature, the topic soon wends out of control. From patterns in the swirling galaxies to the double helix structure of DNA, from the golden ratio in art and math to rotational swirls in the paintings of New Age artist Alex Grey, spirals and related patterns occur practically everywhere. Throughout the animal kingdom, we see movement as much in terms of spirals as shifts in weight, whether watching a sidewinder on the desert slopes or the gravity defying leaps of Baryshnikov in some romantic ballet.² One of the most relevant passages I could find on this subject sets up our argument very nicely indeed: “That a spiral geometry is an historically attractive resolution for a variety of structures is shown by its ubiquity in the ‘transitory spirals in a lock of hair, in a staple of wool, in the coil of an elephant’s trunk, in the circling spires of a snake, in the coils of a cuttle-fish’s arm, or of a monkey’s or chameleon’s tail.’”³

While such ideas are intriguing, we must choose a very narrow path here if we have any hope of formulating a coherent narrative. My solution to this rather tricky dilemma was to see where my meandering efforts to collect relevant data on spirals in utero might lead and find a unifying idea that would tie things together. Unfortunately, I found the facts were widely scattered and even the most ambitious embryology books I examined made only fleeting references to such patterns. Given the interest in spirals in studies on cosmology, art, and mathematics, the seeming-ly spotty references to

such structures and patterns in human development proved intriguingly puzzling. Since I had no clear answer for why this observation seemed true, I decided to accept things as I found them and waltz through these scattered references as best I could. Once my recapitulation of that potentially dizzying Acceleration Waltz is concluded, I will append a codetta to explain how these ideas might be of value to bodyworkers interested in working with the very young.

Seeking Answers

The first logical place to look should be in standard embryology texts. Yet, for all their wealth of information, there was little help in most of them. While there is a great deal of information on the mathematics of spirals in the classic text on morphology, Thompson’s *On Growth and Form*, we find little specifically devoted to embryological patterns.⁴ A more promising resource proved to be the recent book by German embryologist Erich Blechschmidt. Blechschmidt’s work has been the subject of some recent discussions in the structural integration community, and in fact there are now classes available that have helped make his important body of work more accessible.⁵ What Blechschmidt describes in his *Ontogenetic Basis of Human Development* is a dynamic relationship between adjacent layers of cells. He calls



some intriguing remarks about spirals and embryological rotational patterns. “In the beginning there’s this embryonic disc, and as the mother moves and twists, one side will probably develop a little faster than the other. There will be a twist, I think, where the rotation starts. It’s going back to an explanation that we’re not symmetrical anyway.” While I found this intriguing, I could find no other such remarks in his entertaining speech.⁹

Remembering my discussions with him about the fascial anatomy book he wrote with Rosemary Feitis, I reviewed this fine text and found some detailed information, this time on in utero rotational development patterns and how they shape adult movement and relational adaptations. Here, Schultz revisits his argument that the child’s position in the uterus is extremely important for its structural development and alignment. “Whether the head is to the right or to the left of the knees, where the arms are in relation to the spine, these factors establish the individual pattern of the vertebral column. We assume that the position of the head on the neck is determined by these spiral rotations. Such primary rotations are augmented and compensated by intrauterine limitations during late pregnancy.”¹⁰

Now this was getting us somewhere. Schultz identifies two key elements to the strain pattern. He argues that movement of the mother has a strong impact on the fetus’s rotational strain patterns. Also, he states that the position of the baby in utero affects these patterns and that they increase as the baby approaches full term. Another fact that determines asymmetrical patterns not addressed by Schultz is the effect of flexor and extensor development. As most students of embryology know, anterior surface flexors develop earlier than the dorsal surface extensors; the fetus’s forward folding pattern and the early development of the heart, liver, and lungs (from the second month) all have a profound effect on asymmetrical (ventrally dominant muscular and visceral) development. This, combined with the rotational patterns of the limbs, the dynamic tensional forces within the

embryo, and between the embryo and its container all significantly contribute to asymmetrical development in all planes and developmental layers.

I located another interesting notion in Elaine Morgan’s account of the birth process found in *The Descent of the Child*, alluded to earlier. In her description of the harrowing journey of the baby as it passes through the birth canal, she describes a strong rotational pattern of the head once it reaches this final passageway. “The contractions are liable to be accompanied by kicking and spasmodic movements of its arms. The increased pressure on its buttocks is transmitted up its spinal column to the base of its skull, and this forces the head forward until

the chin is touching the breastbone. In this position, it is propelled onwards until it encounters the bony pelvis, and the slope of the pelvic floor twists its head until it has rotated ninety degrees and as if it were looking over its shoulder. A little lower down, it finds that the vagina has a kink in it, and it has to negotiate a ninety degree turn.”¹¹

This makes clear that an important component of this spiraling strain issue must have something to do with certain aspects of the delivery process itself. An intriguing idea from John Upledger helps us here. In his book on embryology and the development of the central nervous system (CNS), Upledger suggests that the birth process is in effect our first spinal and cranial adjustment. “My

second concern that accompanies the Caesarean section delivery is one of deprivation. By this, I mean that the newborn is deprived of its trip through the birth canal. This passage through the birth canal, I believe, is tantamount to its first spinal adjustment and mobilization treatment, its first skin treatment and its first craniosacral treatment.”¹² Although I had read this passage months before our session, it never occurred to me to ask if the toddler had been delivered Caesarean. I did not find this out until a few months later. This factoid made me wonder if perhaps the restriction between the base of the occiput and the upper cervicals that seemed to impinge on his ability to rotate and extend might have been related to his non-optimal mode of being removed from the womb. It perhaps offered an interesting clue to what I



sensed and was able to mobilize, but was not something I could corroborate with any degree of certainty.

And yet, I still felt that I was not very far along as to what specifically might be going on with my other little tyke, that wonderfully playful Hispanic child with the odd bump. So, I presented my observations to a few folks in the field with a higher level of embryological and anatomical understanding than yours truly. The two answers I got were really extraordinary and while I would like to present them in their entirety, some of their remarks go way beyond the scope of what will be useful here. I have chosen to pare them down so that their central ideas are easier to digest.

My first responder was Thomas Myers, known to many in our community through his Anatomy Trains myofascial meridian training classes and his numerous fascial anatomy articles published in these pages (see “Kinese—The Language of Movement,” page 18). Where Myers started was with the foldings and unfoldings of the developing fetus and the frequency

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of spirals in embryological development. “Now these (developmental) unfoldings (in the womb) combine linear (hinge) movement with rotational movement to produce spirals, found in so many places. And it’s true that God seems to favor right-hand spirals all over, and especially in the construction of organic proteins, but nevertheless our inner developmental spirals are pretty much symmetrical.” From there, Myers went from specific to general, offering some intriguing theories and more relevant detail than I found in all my textbooks combined. “What you saw when you put your hand on the child’s lumbar was a neuronal imprint, a neurological response, an odd one, so likely imprinted by the birth experience. All babies spiral out—it’s built into the shape of the head and the birth canal. One ninety-degree turn is required. Most do two or even three of these in a birth. I can’t think of a baby that got stuck at the hip level; they’re so small. It’s always either the head is stuck, or shoulder dystocia, where the shoulder girdle gets stuck behind the pubic bone arch.”¹³

My second respondent was a fine Rolfer and diagnostician with more than twenty years in the field,

Clay Cox. Cox took a much more technical approach in his answer and asked many penetrating questions. His feeling was that what I was sensing was a scoliotic pattern and offered some provocative diagnostic inquiries that I was unable to answer since I did not see this fellow for any evaluative follow-up after receiving Cox’s fascinating reply. “I suspect that these spiral patterns are the early signs of scoliosis. This is the time to impact them to have the most beneficial effect. If X-rays are available, give the pelvis a good look. Are the iliae symmetrical? Are the lines of the sciatica joint similar? Are the necks of the femurs symmetrical? What do you palpate along these lines? The question to answer: if there is a twist at the osseous level that is palpable or visually apparent, is this twist a function of delivery and caused by soft-tissue contractures or responses to tissue strains, or is this a genetic issue? The answer changes the approach.”¹⁴

A Place to Start

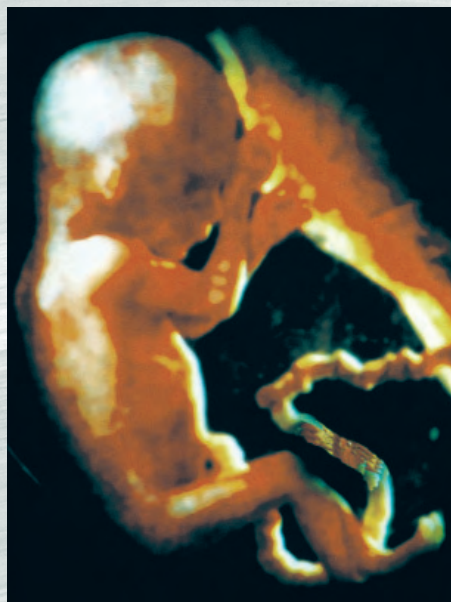
All this may seem a bit complex and perhaps too technical to be of much use to the general body-working audience and yet, underneath all the detail lies a core of basic facts with rich potential application. For those like me who are drawn to working with children, and who may lack a great deal of technical training in this arena, there may be a sense of confusion when approaching an infant. So much information is available and so many layers of evaluative complexity emerge so quickly that it can intimidate. Combine these issues with the requisite sensitivity required to perceive and address relatively subtle imbalances in a young system, and you have a recipe for instant fear and trembling. And yet, the temptation to explore this fascinating territory may overpower your natural hesitancy. This was certainly the case for me.

It seems to me that one obvious place to start is with these rotational strain patterns. If we know about the prevalence of asymmetrical developmental patterns in utero, if we know a bit about the rotational spiraling through the womb, and if we match this with what our clients’ mothers tell us about any complications or deviations from a “normal birth process,” we can then begin an exploration of fascial pullings that may be a consequence of such asymmetrical strains. Furthermore, if we can pay closer attention to movement patterns at the major junctures, we will begin to see restrictions or imbalances in movement or weight distribution. Such patterns are prominent in the head, neck, and spine, particularly in the very young, as much of the early orienting movements and related muscular developments are initiated here, particularly in the posterior neck and supporting spinal muscles. We might, for instance, be especially interested in the muscles supporting the secondary or lordotic curves of the cervical and lumbar spine, which are tested and strengthened greatly in normal development, particularly during the first year.

The danger exists in that if we are looking for a particular pattern, we will inevitably find it even if it is a minor (or non) event. Of course, even should we be misled, if our interventions are gentle and of relatively short duration, we will be highly unlikely to induce strain rather than mitigate it. The overriding theme here is being attentive without fixating.

Look carefully at the specific pattern, gently palpate it, and once you have engaged it, see if you feel a restriction in movement.¹⁵ Once you find a sticky place, create a barrier and resist movement, or, conversely, follow the body into the pattern (these alternate strategies being the difference between indirect and direct work, which are approaches to soft-tissue and craniosacral release rather than quantitative guides for amounts of relative pressure). If you are on something gummy, it will probably change quite quickly and you should notice a rapid shift in the system. If the little one allows, test the opposite side or look for another logical sticking point at say the opposite end of the spine on either side. Since you have very limited time, be efficient, do not try to do much, and pay very close attention to any change in voluntary or involuntary movements as these are important nonverbal cues that will tell you whether to wait, move on, or end the intervention. The time to end is the most obvious point in the interaction and if you go beyond what the infant will tolerate, he will let you know quite emphatically, trust me.

The appeal of this work is that change occurs rapidly and the cues for any inadvertent misstep are immediately clear if you are still and mindful. The value of the spiral and rotational approach to locating strain is that it is easy to see and feel, much easier than say some dural tube or visceral strain. Being able to follow and go into the infant's pattern is surprisingly clear. The danger rather lies in falling into his system too rapidly and taking on the pattern so strongly that it interferes with your ability to engage and facilitate



positive change. You must remain vigilant and avoid the many seductive portals, so you can focus on deepening your ability to efficiently intervene, balance, and egress. Such work requires a patience and willingness to explore that is not to everyone's taste, that is for sure. However, for those as drawn to such work as I am, the rewards are great and the magic of such nonverbal and rapid interactions are well worth the patient practice required to effectively reorganize and balance such wonderfully mutable energetic systems. **M&B**

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a Rolfer and Rolf movement teacher in 1995. He has been a certified advanced Rolfer since 2000 and has taught anatomy to massage therapists, and more recently Rolfers, since 2001. Bishop has published more than forty articles on various aspects of bodywork, including: anatomy, embryology, intuitive bodywork, theories of structural integration, and somatic metaphor. To learn more, visit www.idarolfsbrahms.com.

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Notes

1. An allusion to Elaine Morgan's *The Descent of the Child: Human Evolution from a New Perspective* (New York: Oxford, 1995); a resource quoted later. Special thanks to Tom Myers who recommended this book to me many years ago.

2. See in particular some rather extensive discussions of naturally occurring spirals: D.W. Thompson, *On Growth and Form*, originally published in 1917. (Cambridge: Cambridge University Press, 1966), 748-849ff.

3. R. Grossinger, *Embryogenesis: Species, Gender, and Identity* (Berkeley: North Atlantic, 2000): 205. The quote within this quote comes from: D.W. Thompson, *On Growth and Form*, p. 748 (although this differs from Grossinger's citation which may be from a different 1966 edition). See also Grossinger's discussion of spirals and phylotaxis (the arrangement of leaves on a plant stem), pp. 245-46.

4. D.W. Thompson, *On Growth and Form* (Cambridge: Cambridge University Press, 1966).

5. J. Maitland, "The Use and Abuse of Biodynamics," *Structural Integration*, 33, no. 4, (December 2005), 16-19.

6. E. Blechschmidt, *The Ontogenetic Basis of Human Anatomy: A Biodynamic Approach to Development from Conception to Birth*. Edited and translated by Brian Freeman (Berkeley: North Atlantic Books, 2004), 192-93.

7. R. Grossinger, *Embryogenesis*: 153-54.

8. H. Milne, *The Heart of Listening: A Visionary Approach to Craniosacral Work* (Berkeley: North Atlantic, 1995): 214. Milne's unique approach to complex rotational movements between the bones of the skull is extremely interesting and also relevant to our discussion.

9. L. Schultz, "Anatomy: Importance and Limitations," presented as a part of the keynote addresses from the 2005 IASI Symposium, October 2005, Seattle, Washington, *IASI Yearbook 2006: Yearbook of Structural Integration*: 15.

10. L. Schultz, R. Feitis, *The Endless Web: Fascial Anatomy and Physical Reality* (Berkeley: North Atlantic, 1996), 12, 14. Much of my understanding of Schultz' ideas comes from personal discussions between us that resulted in a 2003 interview I did with him in Atlanta and published later that year: "Interview with Louis Schultz, Ph.D.," *Structural Integration: The Journal of the Rolf Institute*, 31, no. 2 (June 2003): 5-7.

11. E. Morgan, *The Descent of the Child*, 69. For more detail, see her description of the birth process, pages 67-74.

12. J. Upledger, *A Brain Is Born: Exploring Birth and the Development of the Central Nervous System*, illustrated by Alice

Quaid (Berkeley: North Atlantic, 1996), 259.

13. Quoted (with permission) from a 2006 e-mail from Tom Myers to the author.

14. Quoted (with permission) from a 2006 e-mail from Clay Cox to the author.

15. It goes without saying that too much movement is as problematic as too little. For simplicity's sake, however, I focus here only on working with fascial restrictions.