

The Wonder and Complexity of Motor Development in Infants

by Vanessa Mitchell Kohlhaas

The infant's incredible journey through the stages of motor development shows the complexity and wisdom of the growing human body. Each stage carefully lays the groundwork for the next skill to emerge, and the child explores and practices every new skill with the interest and precision of a scientist. Gradually she moves toward the upright positions—lifting her head, balancing on all fours, sitting, pulling herself to a standing position—until she takes her first step. Each new stage is equally important for the healthy development of the whole child. This article gives a series of pictures of how a parent or caregiver might approach the infant during caregiving and playtime in a way that supports healthy, natural development.

Pikler, Gerber, and Steiner on free movement in infancy

Dr. Emmi Pikler, the Hungarian pediatrician who in the 1940s founded the orphanage known as the Pikler Institute in Budapest, and Magda Gerber, a child development specialist who brought Pikler's work to the U.S. and founded RIE (Resources for Infant Educators), have provided insights into the child's development of movement. Their shared emphasis on observing the child's abilities in the moment (what he *can* do now), versus focusing on prescriptive developmental schedules (what *should be* achieved), respects the complexity of motor development during infancy. Their recommendation to allow the child to develop motor skills naturally, without intervention, allows the child to explore herself and the world around her out of freedom and without pressure.

The observations and practices of Pikler and Gerber support Rudolf Steiner's insights about infants' motor development by recognizing that we do not need to teach a child to walk, because a deep wisdom is present that guides the process. According to Steiner, allowing free movement, without hindrance or hurrying, creates space for the spiritual world to optimally support the child's development. This is illustrated by Steiner in the following passage:

In childhood, a dream world still seems to hover about us. We work on ourselves with a wisdom that is not in us, a wisdom that is more powerful and comprehensive than all the conscious wisdom we acquire later. This higher wisdom works from the spiritual world deep into the body; it enables us to form the brain out of the spirit. We can rightly say, then, that even the wisest person can learn from a child...In the first years of life, however, this higher wisdom functions like a "telephone connection"

*to the spiritual beings in whose world we find ourselves between death and rebirth. Something from this world still flows into our aura during childhood. As individuals we are then directly subject to the guidance of the entire spiritual world to which we belong. When we are children—up to the moment of our earliest memory—the spiritual forces from this world flow into us, enabling us to develop our particular relationship to gravity.*¹

It is through this connection to the spiritual world that the child is able to learn so much in a relatively short amount of time. As parents and educators, we can observe the child and ourselves so that we do not inadvertently create obstacles to this profound work that is not only physical, but also spiritual.

Through movement, the child determines where her body is in space and in relationship to solid ground, which leads to a feeling of centeredness and uprightiness. The infant, in an archetypal battle over her limbs, gradually learns to gain control of the limbs so that she can be the vehicle of the will. A child who, through free movement, learns to feel grounded, settled, organized, and coordinated can meet the world with confidence.

Adjusting to a new environment

The newborn infant seems to be in a semi-conscious state, absorbing the sense world through her whole body. Only gradually will she learn to differentiate herself from the world around her. The newborn spends much of her time asleep, adjusting to her new environment. No longer is she protected from the outside world within the warm and sustaining womb of her mother. She now takes an active role in the fulfillment of her own needs, including breathing and feeding. This is no easy task, but she has been preparing for it even before birth.

The most important role of the parent during this stage of the infant's development is to provide protection and warmth, so that the child can more readily adjust to physical life on her own. This idea of providing warmth and protecting the senses of young children is an important principle of Waldorf early childhood education. Within the RIE/Pikler approach, this idea of protection of the senses takes on a slightly different form, in that the child is protected from startling sensory experiences through the parent's or caregiver's sensitive words and gestures. The parent or caregiver is encouraged to prepare the infant for what is coming through simple, gentle descriptions and respectful actions. For example, when the infant cries out in hunger, the mother can acknowledge the child's communication by saying, "Yes, I hear you. You are hungry. It is time for you to eat." Then, before picking the child up, the mother can avoid surprising or over-stimulating the child by holding out her hands and saying, "I am going to pick you up now. Are you ready to eat?" In a calm and slow manner, the mother takes her time to lift up her baby. Once they are settled and feeding begins, and the mother or caregiver is encouraged to remain focused and present so that a real connection can take place.

1 Rudolf Steiner, *The Spiritual Guidance of the Individual and Humanity* (Hudson, NY: Anthroposophic Press, 1991), p.9. Original German edition published 1911.

Room to move

While lying on her back on the floor, the infant begins to develop more control over her movements. Her legs and arms bend and move as if she is swimming in space. On her tummy, she can lift her head for a moment and turn it from side to side. Then, one day, she makes a great discovery—her hands. These become a favorite plaything. She fascinates herself by exploring her own body and then moves out beyond her fingertips. Now her head can turn, her arm can stretch out in the same direction, and she can pick up a cloth or small toy with her hand. There is so much around her to take in and explore!

In a desire to have their infant close by at all times, some parents carry a car seat from room to room in the house during the early stages of development. But being contained in a car seat restricts the infant's free movement, as it is difficult for the child to turn and stretch while sitting in a curved chair. Providing a safe place for the infant to lie freely on her back is a healthy alternative. If there are older siblings or pets, a playpen or gates can be used to ensure safety. Rather than seeing this as a restriction to separate the child, the playpen or gates can be viewed as a way for the child to move around freely and safely. It creates the added benefit of freeing the parent to complete household tasks at times while the infant does her own work of exploring. Then, when the infant needs care, the parent can be more fully available for the child. This healthy balance of time together and time apart benefits both the parent/caregiver and the child.

In her own time

Sometimes a parent wishes to aid development by moving her baby into a position that she cannot yet master, such as sitting propped up with pillows. But the unassisted development of movement follows a specific sequence of skills that requires the child to be fully active during each stage. When a child is put into a new position before she is naturally ready, she loses the freedom to control her own movements. The propped infant is unable to move herself back into the lying position. She remains uncomfortably frozen in this new position or simply slumps over. On her back, however, she can turn and lift her head, move her legs, and reach out with her arms. And when she is tired from this new activity, she can simply relax back into the lying position.

The infant progresses from lying on her back to slowly turning and rolling over onto her belly. This does not happen all at once, but through many practice opportunities. While lying on her back, the infant stretches and flexes her muscles this way and that. She lifts her leg and crosses it over to the other side. Then, one day, she turns herself all the way over. Her arm might become caught underneath her. She will return to lying on her back and have a little rest before trying again. When she is able to roll over, in her own time, she will have already developed the skills needed to lift her head, free her arm and move her limbs while lying in the prone position. She may sometimes lift her head and all four limbs at the same time as if she is flying like a bird.

Creating a safe space for free movement

Once the child is mobile, gates can section off part of a room so that the parent can feel confident that the infant will not get hurt while freely covering ground. The space can then grow and change with the child. A playpen that was adequate when the child was non-mobile is too small for the infant now, except for brief moments. Careful observation and taking into account the baby's point of view help the parent or caregiver to determine whether the child has adequate space in which to move and explore.

An infant is a unique individual who deserves respect. She is in the process of discovery during free play, and so her caregiver needn't unnecessarily interrupt her or feel that she has to be an active playmate. A play space safe enough for the adult to feel comfortable allowing the infant to play in, without always remaining right next to her, is ideal. This way the parent can be close by, but can still engage in adult tasks. There are also moments for the adult to passively participate during the child's free play. The caregiver can learn so much from the child through observation, a time during which the infant can play until she is satisfied, without too much interaction. Of course, the caregiver would intervene in the case of a safety concern or when it is time for a diaper change, feeding or bath. Uninterrupted play enables the infant to learn so much, such as how things work, problem-solving, cause and effect, and concentration—all naturally and, again, in her own time.

Once the child can roll over and play in the prone position, she begins to develop more control over the movements of her body. She can easily lift and maintain her head and chest off the ground. Her legs have extended and developed more muscle tone. She begins to creep with her torso on the ground, pulling herself along and using her legs the way a lizard moves in the desert. Now the child has the ability to move across a room using a wide range of movements. She can turn her head and look in the direction a sound came from. She can pick up a toy and play with it while lying on her stomach, or she can navigate along the floor, encountering new possibilities for exploration.

This is also the time that a child may learn to sit on her own. Lying on her stomach, she is able to first lean on one side with her torso still on the ground. Then, using one of her arms, she is able to lift herself into a half-sitting position. Finally, she is able to sit up without using either arm as a support. With a little more practice she can sit with her legs stretched out and her arms free to explore objects around her. When a child is given the time and space needed to learn to sit on her own, she is often more at ease with her posture.

Supporting natural development

The play space can expand and change further as the child learns to sit and crawl, allowing for free movement. This is often the time that parents will consider using walkers or jumpers, but such equipment takes away freedom of movement and may even obstruct development. Playtime on the floor to creep, roll and explore allows the child a wide variety of movements so that her motor skills can continue to develop naturally. Pikler addresses the use of artificial equipment and exercises with young children with these words:

The question is not how we can “teach” an infant to move well and correctly, using cleverly thought up, artificially constructed, complicated measures, using exercises and gymnastics. It is simply a matter of offering an infant the opportunity—or, more precisely, not to deprive him of this opportunity—to move according to his inherent ability.²

Some simple caregiving choices can be helpful in this regard. For instance, nonrestrictive clothing that is, nonetheless, not too loose-fitting allows the newly mobile child freedom. Non-skid socks allow the child, when creeping, to gain sensory feedback from the floor. Sleeping sacks used during nap in cold weather means that the child is able to kick and move without the risk of throwing off needed blankets. Dressing the child in natural fibers ensures that she is not distracted by uncomfortable touch sensations and can stay more aware of her body’s reaction to movement.

A new relationship to gravity

The child moves from creeping on her torso to crawling on her hands and knees. This stage of development gives the infant a new relationship to the earth and gravity. No longer is her body being pulled toward the ground, but, rather, she is able to take control and raise herself up. Crawling provides important movement patterns that may have far-reaching effects on the child’s visual and cognitive skills, as well as on her continued development of movement. Infants learn eye-hand coordination skills by watching their hands as they crawl across the floor. And, of course, crawling provides the child with a new level of freedom.

Playing outside is a wonderful opportunity for all children, especially children who are crawling on all fours. Nature offers many interesting play materials such as leaves, dirt, sticks and rocks and so, of course, close supervision is needed. It also abounds with grass, hills, and logs to climb over and around. Outside playtime provides children with an intimate connection to the seasons and offers a challenging place in which to practice creeping so that the quality of their movements continues to improve.

The day finally comes when the child stands by herself and takes her first step. In order to walk the child must first be able to support her own weight, balance on one foot, and shift her weight from one side to the other. This is no easy task, but she has been diligently, and joyfully, preparing for it for a long time, through all the previous stages of motor development.

Steiner expressed the importance of learning to walk in *The Spiritual Guidance of the Individual and Humanity*:

It is significant that we must work on ourselves to develop from beings that cannot walk into ones that walk upright. We achieve our vertical position, our position of equilibrium in space, by ourselves. In other words, we establish our own relationship to gravity.³

2 Sensory Awareness Foundation, *SAF Bulletin #14: Emmi Pikler 1902 – 1984* (Mill Valley, CA: Sensory Awareness Foundation, 1994), p.6.

3 Steiner, *ibid.*, p.11.

Honoring the child's inborn motivation

By quietly honoring children's intrinsic motivation, we support their natural joy in moving. For example, when a child is completely involved in walking, the parent might simply observe with a quiet smile and an attitude of respect for the accomplishment. Loud, enthusiastic praise—such as clapping and exclaiming, “Good!! Look at you! You are walking!”—can backfire. The child might then look over, lose her balance and fall. By allowing intrinsic motivation to continue to grow and develop in the child, the parent is helping to lay the foundation for a lifelong joy in learning.

The way infants instinctively and naturally move is always the safest. However, even when a child is given space and time to develop motor skills naturally, she will still occasionally fall. When a child falls, she is learning on a physical level how to protect her head when she loses her balance. This is a skill she will need again and again throughout her development, as walking progresses to running and jumping. The experience of falling and getting back up also supports the child's emotional growth, showing her that she is capable of continuing with an activity even when there has been a challenge along the way. It is often the parent's instinct to catch a child who is just about to fall. But holding back from rescuing the child too soon, too often, gives her a chance to regain her balance and continue on her way.

Learning to fall, get up, and move on is, perhaps, the best preparation for life.



Author's Note: I have gained so much from the work of Steiner, Pikler and Gerber as a teacher and, most recently, as a new mother. My husband and I welcomed our son, Leon, into the world in October, 2007. It is such a gift to observe his development with interest and pleasure, but no agenda. I can recall vividly the first time that he rolled from his back to his stomach. He had been working at rolling over for weeks, sometimes with great frustration. But my husband and I trusted his ability and continued to give him time and space to make new discoveries. Then, one day, he finally rolled over. I was amazed that he was able to get his arm out from under his chest pretty quickly. He turned his head to me and smiled.

Of course, there are other moments that don't end in smiles. With each new accomplishment, Leon struggles and pushes himself to learn more. And I struggle as a mother right alongside him. I don't always parent the “Waldorf,” “Pikler,” or “RIE” way, but I am supported by the wisdom that I have been given. In the end, I remind myself that I will develop as a mother in my own way and in my time—in the same way that I strive to respect the young child's development. Anna Tardos, the current director of the Pikler Institute, provided me with this sage advice just before Leon's birth: “Do not think of what you have learnt and how to be a right mother. You only have to pay attention to the baby and do what comes from the heart.”

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