

# Feldenkrais

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# Reversibility— A More Global Definition

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Before we dig in, I would like to try a little experiment. I'm going to tell you part of a familiar story. I'll start in the middle.

"When Goldilocks saw the third bowl of porridge, she tasted it and said, 'This porridge is just right.'"

Would you be able to finish telling this story yourself? Having heard only this much, could you tell it from the beginning? Could you go forwards or backwards in the story, regardless of where I started?

Dr. Moshe Feldenkrais emphasized a concept he called "reversibility." In *The Body and Mature Behavior* (1949), Feldenkrais described reversibility as a characteristic of people with "proper body control."<sup>1</sup> Such people can change their state without "preliminary or preparatory movements" or unnecessary exertion. As a result of this control, they can also reverse their movements or direction at any time.

This characteristic is often expressed as a sophisticated martial arts concept. In tai chi, for instance, there is a notion that, as one moves forward through a form, one should be able to stop and reverse course at any point. This requires that the mover is so cognizant of the body image that they can prevent momentum, physical or mental, from dictating their movement.

Many Feldenkrais® practitioners use the term "reversibility" when promoting Feldenkrais' ideas around the subject. In expressing a quality they hope to see in themselves and their clients, practitioners define reversibility as the ability to change direction without preparation. Yet, as sophisticated as such an understanding of reversibility may be, I believe we need a more meaningful, clearer definition—one that assists us in identifying and attaining this state of reversibility.

<sup>1</sup> Moshe Feldenkrais, *The Body and Mature Behavior* (Berkeley, CA: Frog Books, 1949), 104.



## Physical momentum, mental momentum

The peril of physical momentum is well known to us: if you cannot stop your body mass from advancing at any second, your forward impetus may be used against you, to pull you along, to trip you, and so forth. As the Feldenkrais Method® of somatic education deals with integrating mind and body, it is imperative that we have a way of defining momentum in thought processes as well as in the body. When we memorize a script or a piece of music, just as when we memorize physical movements, we are often relying on the previous note or line to cue the next one.

Imagine you are moving through a martial arts form. You imagine the series of movements as links in a long chain, each connecting to the next. You know, for instance, that you must punch upwards now because you just swept your left foot back.

This chain-memory is useful in the short term. It gives us our first connected sense of the form, or the script, or the music. Yet the danger is obvious—one broken link invalidates the chain, and can spoil the performance.

If we are relying on chain-memory—the previous movement of a form to cue us for the next one—we are dependent upon mental momentum. Any flaw or deviation in the prior movement will throw us off, making it a somewhat unreliable way to recall the next part of the sequence, and its uncertainty will manifest in the physical act. A better kind of memory is necessary to ensure that we can begin our sequence at any point without having to back up—in other words, without having to use a preparatory movement—to cue us.

I chose the Goldilocks story because I was confident that most readers knew it so well that they could move forwards and backwards through it at will, running it like a film, at any speed, to any destination. Furthermore, most of us familiar with such fairy and folktales do not need the story to be told in sequence to remember its details. We could start from any point and finish the story, and some of us could tell it backwards.

When children are first taught the alphabet, it is usually through the aid of a melody, sung in sequence, known as the “ABC Song.” As a teaching tool, this song incorporates rhythm, melody, and rhyme into the alphabet to render the alphabet more memorable. The infusion of these other elements provides a powerful means for greater reversibility by organizing the letters into different sections carefully sequenced with the music.

Children who know the song could probably pick up the alphabet anywhere along the line. As a result, they are able to learn all the letters

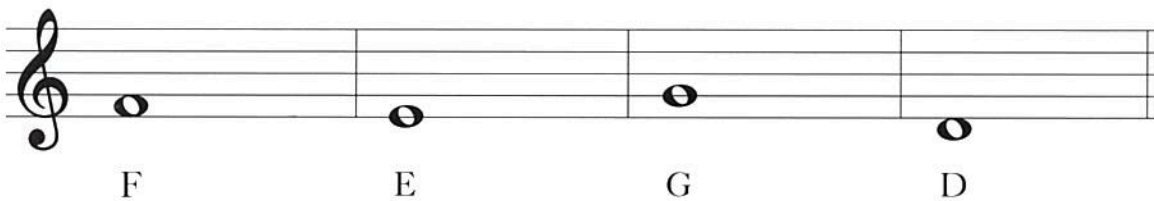
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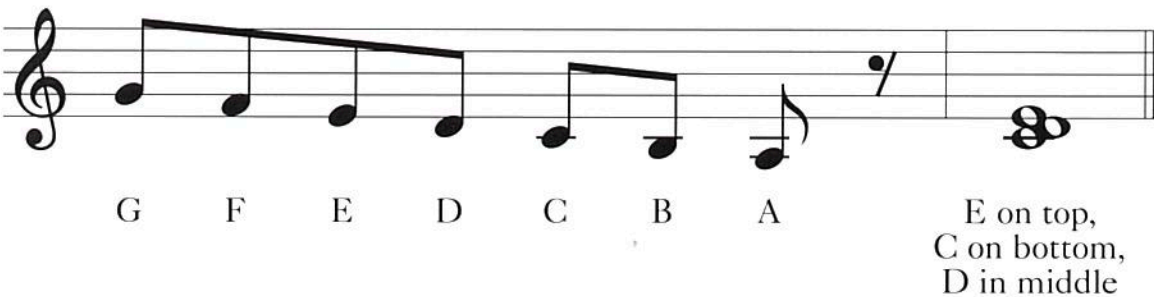
more quickly, and to develop a sense of where they fall—earlier or later, in the middle, around a high note. Their understanding of the alphabet goes beyond the sequence of the letters.

There is an even higher organization of alphabet knowledge available that most children do not pursue because we have little need of it in our language: what we might refer to as true reversibility of the alphabet. People who do learn this skill include word-puzzle experts and musicians—puzzle experts because they must rearrange letters to solve puzzles, and musicians because letters correspond with musical notes, which can appear in any order or sequence you can think of.

When I teach music notation, which makes use of only seven letters of the alphabet (A through G), my students must be able to look at a dot on a music staff (five lines/four spaces) and know by looking at the location of the dot which letter corresponds with it. Even though only seven letters are in play, the children are often very slow in recognizing that if a dot on the bottom space is F, the dot on the line below it will be E. Lack of reversibility with the alphabet is one reason for the difficulty.



It took me a while to recognize the problem because I failed to recognize that I had already gained such reversibility. Most people learn only enough flexibility with the letters to form words out of them. If and when letters are combined to form a nonexistent word, such as “pxgleqo,” we have a little more difficulty recognizing the letters and remembering the new combination. As a musician, because I have learned to play the seven notes of the musical alphabet in any order, AGBD, CFAFCFAF, and so forth, I have gained a much greater understanding of the possible connections between the letters. My students do not have this global understanding. When asked to say the letters backwards from G to A, many have difficulty, not instantly recognizing that E and C surround D.





In order to assist my students, it helps to call their attention to the fact that we are using the letters in a different way. Many students must first get comfortable with the dots and the pictures they make before they can comfortably assign letters to them. As they learn to read the notes through the act of making music, requiring the letters as a reference point for where to put their fingers, they gradually gain this unusual skill of being able to identify letters of the alphabet out of order.

Providing this kind of understanding to my students empowers them in many other areas of study. Many students, who can only work math problems going step-by-step, find word problems more difficult because word problems require them to acquire a global sense of the problem in order to determine the method that will produce the desired solution. They must first understand the entirety of the problem before they can begin to work it out, as a good storyteller often benefits from knowing the entire story, which they can play on in giving a compelling performance.

It should come as no surprise to any Feldenkrais practitioner that reversibility in thinking will benefit students in their athletic endeavors as well. Beyond the obvious fact that one must know the rules and techniques of any sport backwards and forwards before playing it effectively, there is the more subtle matter of how a person functions while playing. The somatic approach encapsulated in the Feldenkrais Method brings a sense of reversibility to the player in ways that are enormously helpful for their agility and coordination.

## The importance of reversibility

It would behoove us as practitioners to recognize the complete concept of reversibility as we are communicating its value to our clients. The significance of reversibility goes beyond having more control over the sequence of a movement, like reaching or bending, which is often where practitioners' understanding stops. Rather, reversibility provides us with the instantaneous, complete comprehension of the reach, so that we are no longer dependent on the sequence. With true reversibility, we can begin, reverse, or skip around the movement, which allows for greater ease and freedom in every situation.

If we return to martial arts, we can imagine someone who has learned the movement sequence so well that they have gained true reversibility. They could execute a form as though they were in a film, starting at any place and moving at any speed, forwards or backwards. They would never need to prepare because they have an instant understanding of where each move belongs in the sequence independent of its execution.

When I am learning a piece of piano music I often come across difficult passages that cause me to fumble and miss notes no matter how many times I practice the piece. Through a process of exploration

and reflection I have discovered that, if I learn to play the passage backwards, something astounding happens: my difficulties vanish, and so completely that it seems like magic.

One reason is simply that going backwards slows me down so much that I am forced to examine the music more thoroughly. Taking nothing for granted, I start to develop the right balance of engagement and flow to really learn the musical passage. I do not get caught up in the mental momentum: I can't be misled by what I think I know.

Yet there is another, more subtle gain from backwards playing, which better accounts for the "magical" improvement. If I can play a passage backwards then I know enough about the music, and how I move while I play the music, to start anywhere and go in either direction. This is not possible without a non-sequential appreciation of the music, one free of the constraint of having to play it in tempo.

In fact, the act of reading music itself, rather than simply learning it by ear, provides a powerful route to musical reversibility. If I can look at a piece of music, take the structure of it in with my eyes as a kind of picture, then I have the freedom to move anywhere in that score—backwards, forwards, jumping around. While reading the music does not automatically provide me with a global understanding of it, the act of reading greatly enhances my ability to gain that understanding: if I am a good reader it may take only thirty seconds to become familiar with a piece of music that would take five minutes to play. Skillful reading of the music can provide more efficiency in my learning.

It can also result in greater mastery and artistry when playing the music. If I can lay my eyes on any section of the music and recognize it instantly, then I am more intimately familiar with the piece and have an improved capacity to express connections between emotional and structural moments throughout.

## The legacy of reversibility

Feldenkrais created a profoundly efficient method for gaining this kind of total appreciation of a function through the process of differentiation and integration. When we differentiate a movement, we playfully examine our functionality in detail, looking at the various elements of reaching or bending. Taking ourselves out of gravity and time, we use our proprioceptive sense to get a better idea of what is happening. When we integrate the pieces we have been examining, we put them back together, emerging with a more profound sense of their relationship to one another, almost as if we had taken apart what we thought was a jigsaw puzzle and realized that we could reassemble it in many different ways other than the original picture.

Our integrated state should provide a significant degree of reversibility. After a lesson, our clients should be much more cognizant of the relationships between the parts of the body and the mind in their



execution of a function like reaching. Should they choose to take the action in a different direction from the one they knew previously, they should have little difficulty.

At the end of a lesson, clients often express their experience of lightness or freedom in their mental and physical state. With reversibility, we have a concrete way of describing that experience: the clients have a bird's-eye view of all possibilities of their skeleton, an integrated concept of their bodies in space, which provides them instantaneous understanding of the easiest pathway from one configuration to another. Because they have a more complete understanding of "getting off the floor," for instance, they are not confined to a particularly awkward way of doing it and, in fact, can rapidly sort through many alternatives to find the one that is the most elegant in the moment.

We have limited ourselves too much by relying on the term "reversibility" without plumbing its depths. Reversibility in a linguistic sense suggests only the ability to move back and forth along a linear pathway. We must go beyond this apparent simplicity.

Reversibility really means the capacity to make use of a complete comprehension of an idea rather than a limited, sequential view. As Feldenkrais practitioners, we are familiar with the results of reversibility and often tout them, even when we may not be able to explain why the client has achieved certain results. It is essential that we develop a deeper account of this integral experience in the Method, experience this state at a conscious and replicable level, and in so doing, greatly increase our power to teach and articulate what we are teaching.

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