

Left, Right, Up, Down, and Around

Part 1: The Handedness Issue

by Marjorie Mann

... tools such
as scissors are
enemies to be
conquered ...

... we must do
both creative
and analytical
tasks to develop
our cognitive
skills.

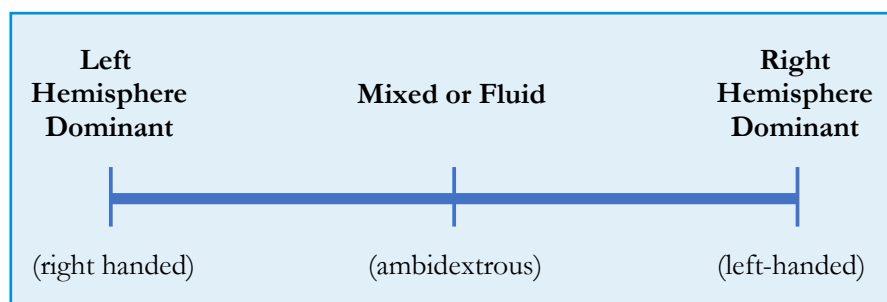
When I was ten months old, my mother put a spoon in my right hand and gently guided me through the motions of scooping up some Gerber baby food and bringing it to my mouth. Then she sat back to see if I would copy her motions and, thus, begin to feed myself. I solemnly looked at the spoon, then quick as a wink, in a plot twist she didn't see coming, I transferred the spoon into my left hand and THEN copied her motions.

"No, no, no," she gently scolded me and put the spoon into my right hand for another try. After many repeats of the same events, she gave up. At least for that particular morning.

Poor mother. She was a young, first-time mother at the end of the conformist 1950s era, and she also was a librarian. During that time, when faced with any new problem in life, a parent turned to an authoritative how-to book. For infant and child care, that meant *Dr. Spock's Baby and Child Care*, and Dr. Spock said, basically, you raised your child as a right-hander.

What my mother and I, and later, my teachers, were struggling with was what laymen call handedness and neurologists now call hemispheric or cognitive laterality. Scientists and neurologists have discovered a lot about this phenomenon in the last few decades, and studies are ongoing. As it turns out, hemispheric laterality runs deep in our evolution, and it is a fundamental part of the mammalian blueprint. Laterality is the preference a person has for either the left or right side of the body. We now know that cognitive laterality is an entire system of brain orientation. It is also more subtle and complex than simply being left-handed or right-handed. It involves our eyes, ears, hands, feet, and how we humans organize our entire external world, including activities such as how we open a door.

Our external world also involves our crafts and hobbies. For left-handed needleworkers, tools such as scissors are enemies to be conquered before they become our submissive assistants, and instructions are a different dialect that need some translation before execution. Meantime, right-handed needleworkers wonder what the big deal is, unless they have left-handed family members and have witnessed the battles firsthand. This article maps this unknown territory, defining the issue, so that both right-handers and left-handers can ultimately



share the joy of needlework with each other while simultaneously eliminating the “translation traps” that can and do cause teachable moments to go catawampus.

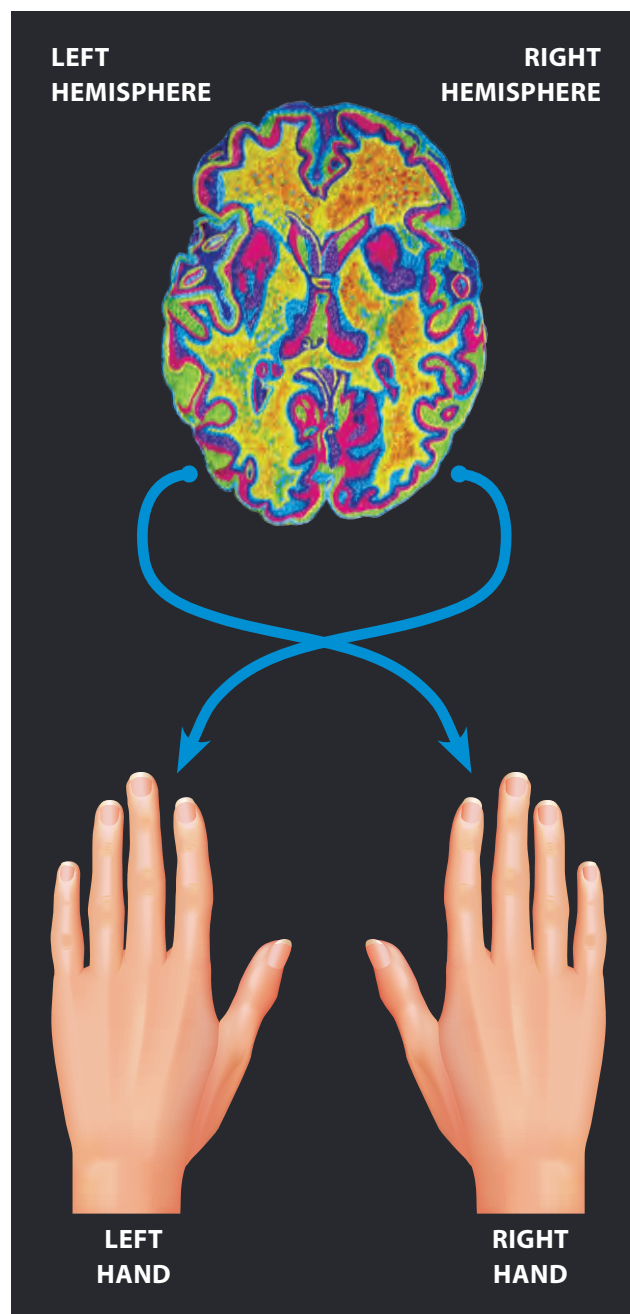
In general, an individual tends to be dominant in the same brain hemisphere for all functions. Put more simply, if you are right-handed, you are also right-eye dominant and right-ear dominant. But this is exactly that: general. Many individuals are mixed-laterality or cross-dominant. For example, they use their right hand to write but listen to their phone with their left ear. Other individuals are not hemispherically dominant at all. They can move fluidly back and forth from one side to another. In colloquial terms, they are ambidextrous. In sum, cognitive laterality runs on a continuum, where an individual is either completely left-hemisphere dominant, mixed or fluid laterality, or completely right-hemisphere dominant.

A brief technical note: a particular brain hemisphere controls the opposite side of the body. So, someone who is right-handed is left-hemisphere dominant (LHD), and someone who is left-handed is right-hemisphere dominant (RHD).

A common cultural stereotype is that a left-hemispheric dominant/right-handed individual is analytical, and a right-hemispheric dominant/left handed individual is creative. But modern neurological studies have tended to dispel this. It's more the case that the left-brain hemisphere is the domain for analytical and linear thinking and the right-brain hemisphere is for spatial and recursive thinking. Consequently, when an individual performs a specific task, the corresponding brain hemisphere is in play.

So, an individual can be both creative and analytical at different moments, depending upon what that individual is doing. Far more important is to develop the skill and awareness of fully utilizing the hemisphere conditioned for the task. The brain is a muscle like a bicep or tricep; just as we do calisthenics and stretching exercises to develop our muscles, we must do both creative and analytical tasks to develop our cognitive skills.

HEMISPHERIC DOMINANCE AND HANDS



Artists Dream in Color by Carol Lynn Stratton

. . . the
left-hander's
brain is more
accustomed
to having to
figure it out . . .

It's interesting to note that when confronted with an unfamiliar task or skill, an RHD adult (hereafter referred to as a left-hander) is likely to master it more quickly than an LHD adult (hereafter referred to as a right-hander). This facility is directly due to something neurologists call plasticity. Put simply, the left-hander's brain is more accustomed to having to figure it out, while the right-hander's brain hasn't had to figure it out for a long time. During childhood and throughout life, left-handers have had to live in a world that is not set up for their convenience, so their brains are more accustomed to exercising. By contrast, right-handers' brains are a bit flabbier and in need of a workout at the gym.

Studies vary on the breakdown of laterality in the human population, but the most common figure is that ninety percent of the population is right-handed, and the remaining ten percent is either left-handed or ambidextrous. On occasion, and increasingly so since the wars in the Middle East, an individual missing a hand, eye, or foot may have to develop forced laterality, the remaining body part often developing a superior function to compensate.

This ninety-percent figure explains why much of the external world is organized and built the way it is, ranging from something as simple as the way a door opens to something as complex as our Western writing system, which is read from left to right. To put it bluntly and succinctly, the world is organized for the convenience of the right-handers. The further implication is that the left-handers experience a measure of difficulty opening that same door or in writing.

The handedness bias is especially acute in the learning environment, not just because the skill being taught is geared toward right-handers, but because the instructors are often right-handed as well. This creates a right-hander/left-hander disconnect between instructor and student.

While a number of instructors make an effort to teach left-handed students how to do the skill in a way that is in harmony with the student's cognitive laterality, many have not and do not realize that they alienate their students. When left-handed students are confronted with a classroom geared for right-handers and request instruction that is consonant with their handedness, they are likely to receive one of three common responses from the uninformed instructor. I refer to them as the Three Tropes. They are, in order of most to least frequent:

1. "Learn to do it right-handed. It's easier that way."
2. "Hold it up to a mirror."
3. "Watch me do it [right-handed], and figure out how to do it left-handed."

What these responses all have in common is that these right-handed instructors feel that they do not need to change their teaching methodology. The end result is that the entire burden of learning is thrust on the left-handed student. Speaking personally as a left-hander of more than five decades' learning experience and more than four decades' needlework experience, the second and third responses are of limited usefulness, and first response is completely unacceptable.

This disconnect, and the three common responses, apply as well to any written instructions. Most authors and their publishers give the same advice in textual form. The issue is most acute when the right-handed authors and

publishers are either ignorant of the issue, or worse, deliberately choose to ignore it. The left-handed reader then attempts to carry out the instructions and discovers the hard way that the instructions just plain **do not work**. Here is a typical example:

To begin needleweaving the first row of the design, follow the instructions and the chart, which is included in the chart insert. Work from the middle of the project out to the left, except where indicated.

Young or new left-handed crafters are likely at this point to completely give up and move on to a different craft or skill that *does* work for them and never return to the one they were trying to learn. More experienced left-handed crafters give a cosmic sigh, then mentally modify the instructions using a set of cognitive tips and tricks they have developed over the years. In the above case, they would modify the instruction to read "...work from the middle of the project out to the right..."

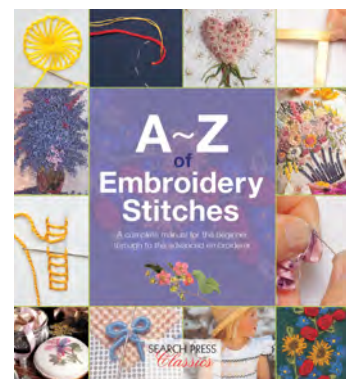
To be completely fair to authors and publishers, some do make honest efforts to give accurate left-handed instructions for their left-handed readers. One publisher that is consistently sensitive to this issue and diligently addresses it is Country Bumpkin Publications in Australia. An example to be commended, and that should be adopted by other craft publishers, appears on page 76 of their *A-Z of Embroidery Stitches* in the boxed text, shown below.

SOME INTERESTING FACTS:

- Leonardo da Vinci was an extreme right-hemisphere dominant, i.e., left-hander. So extreme, he wrote his personal notebooks in a right-to-left cursive script. Modern scholars, who are statistically likely to be right-handed, must hold his notebooks up to a mirror to read them.
- Right-handers, when confronted with a choice, are more likely to go to the right. Left-handers, when confronted with a choice, are more likely to go to the left. Retail stores know this and lay out their inventory accordingly, with the more enticing items on the right-side rows of the store. It also explains why your author, when suddenly confronted with her first traffic roundabout in Edmonton, Alberta, as a young driver, instinctively swerved to the left and seriously annoyed all the other drivers.
- Left-handed stroke victims recover more quickly and more completely than right-handed stroke victims. This is directly tied to their respective brain plasticities. The left-handed brain, after the stroke, metaphorically sighs and says, "Okay. Time to figure out how to do this again." In contrast, a right-handed brain complains: "Aw, geez! Do I have to figure this out? I'd rather not."

Hints for left-handed embroiderers

- 1 For most stitches, work from right to left (or the opposite direction to right handers' instructions).
- 2 Most stitches are worked as a mirror image to the way right handers work them. When following instructions pretend you are looking into a mirror rather than copying exactly what you see. If taking a class, sit in front of the teacher rather than alongside.
- 3 Some instructions are easier to follow if you turn them upside down.
- 4 When wrapping, twisting or looping the thread, do it in the opposite direction to that in the instructions for right handers.
- 5 Stitches that are worked from top to bottom for right handers are also worked from top to bottom for left handers.



A-Z of Needlecraft: A-Z of Embroidery Stitches, A Complete Manual for the Beginner Through to the Advanced Embroiderer, compiled by Country Bumpkin, printed in 2014. Search Press

Anyone may benefit from these tips.

Part 2 of this series will present needlework instructors with a specific set of “how to” strategies, both written and oral, that they can use when working with their left-handed students. These strategies will be helpful even if you do not teach professionally. There are many instances when we are helping friends, teaching young children or small groups as part of our outreach programs, or instructing an individual who is new to stitching. Anyone may benefit from these tips. In Part 3 of the series, we will present to left-handed crafters a set of “translation techniques” they can use when confronted with a right-handed learning classroom or written instructions geared for right-handers. Anyone who is right-handed can benefit from these instructions when stitching with left-handed stitchers. ■

Marjorie Mann is a woman of the borders. She was born in the Niagara Falls region of the United States/Canada border and attended universities in both countries. She still resides on the border, but in the western part of the continent. Her family is a true NAFTA family, scattered from Montréal to Mexico. So, it's no surprise that she is a jack-of-all-trades and master-of-none when it comes to life experiences, job experiences, and fiber-art interests.

EXERCISES

Following are five fun exercises for you to explore your non-dominant cognitive laterality, as well as discover things about how the world around you is organized. They increase in their degree of challenge. However, they all have the serious purpose of giving your brain a workout and developing its plasticity.

1. On an ongoing daily basis, observe the people *and* animals around you, and identify whether they are left- or right-hemisphere dominant. Hint: a quick “go to” identification technique for humans is to note on which wrist watches are worn. Left-handers will wear a watch on their right wrist. Right-handers will wear a watch on their left wrist. For pets, observe which front paw is used for various tasks. My cat, for example, consistently uses his left paw when reaching for that enticing food treat or toy dangling in front of him.
2. When preparing for your normal day, put a bandage over your dominant hand. Then, go through your day using your non-dominant hand. You'll quickly be challenged by tasks big, such as cooking, and small, such as brushing your teeth.
3. Take a simple task such as brushing your teeth and *permanently* switch to doing it with your non-dominant hand. This has the added benefit of developing some of your neural plasticity.
4. Read the following passage, which is in mirror script. It is from “The Embroidered Cabinets of Janet Cariga Brandt” in the September 2019 issue of *Needle Arts*.

 llB ni tniqz evitseq ent zepbdlwonkls tbnB
 eklam ot qilllca a zarl nozoz naE“.elqoz
 something different, she wrote in MOKing
 thingz. The thingz aren't always crast
 projects—they can be anything from a space
 a eklam nca uoY. enonib z'thpinot ot noitatz
 qotz epnir 10ob a 10 olimz nozozq ylenol
 “epnirupz”
 5. Write the following brief passage from this article, but write it in mirror script (i.e. from right to left and each letter in its mirror image):
 Left-handed stroke victims recover more quickly and more completely than right-handed stroke victims.

BIBLIOGRAPHY

Note: The following references, specific to this article, are limited to books in English published in the past ten years and geared for an adult, general audience.

A-Z of Embroidery Stitches. Malvern, Australia: Country Bumpkin Publications, 1997.

Blau, Abram, and Lawson Lowery. *The Master Hand: A Study of the Origin and Meaning of Right and Left Handedness and Its Relation to Personality and Language 1946*. Whitefish, Montana: Kessinger Publishing, 2010.

Coren, Stanley. *The Left-Hander Syndrome: The Causes and Consequences of Left-Handedness*. Riverside: Free Press, 2012.

Denny, Kevin, and Wen Zhang. "In Praise of Ambidexterity: How a Continuum of Handedness Predicts Social Adjustment," working paper, University College Dublin, School of Economics, 2010.

Dunham, James, and Todd Davenport. *Handedness: Theories, Genetics and Psychology*. Hauppauge, New York: Nova Science Publishers, 2013.

Harris, Mark. *The Southpaw*. Lincoln: RosettaBooks, 2010.

Hendry, L. *Left & right*. Clifton Hill, Victoria, Australia: Wild Dog Books, 2017.

McGrew, William C., Linda Marchant, and Wulf Schiefenhövel. *The Evolution of Human Handedness*. New York: The New York Academy of Sciences, 2013.

McManus, I. C., M. Nichols, & G. Vallortigara. (2010). *The Right Hand and the Left Hand of History: A Special Issue of Laterality*. Hove, England: Psychology Press.

Moran-Townsend, Maryland. "The Sinister Hand: Left-Handedness in a Right-Handed World." Paper presented at The Quest Club, Fort Wayne, Indiana, April 20, 2012. Accessed September 5, 2019. www.fwquestclub.com/welcome_files/paper/sinister_hand.pdf.

Noroozian, Maryam, Alireza Minagar, and Sara Khalaj, S. (2014). *Handedness: A Window to Explore the Neuroscience of Brain Lateralization*. Hauppauge, New York: Nova Science Publishers, 2014.

Porac, Clare. *Laterality: Exploring the Enigma of Left-Handedness*. Amsterdam: Elsevier Science, 2016.

Smits, Rik. *The Puzzle of Left-Handedness*. London: Reaktion, Books, 2012.

Wilson, Daniel. *The Right Hand: Left-handedness*. N.p.: Andesite Press, 2017.

Wright, E. *A Left-Handed History of the World*. Sydney: Murdoch Books, 2011.