

ひらめき脳を手に入れる書のススメ

Shodo in the Digital Age:
Brush Calligraphy and Handwriting for Concentration and Creativity

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[概要]

デジタル化のおかげで生活はとても便利になりましたが、今や人間がAIやロボットに取って代わるのではないかという観測も出ています。しかし AIやロボットでは肩代わりできない『ひらめき脳』が手に入るとしたら、あなたはそれを手にしたいですか？実はそれを手にすることができるキーワードは『アナログ』なのです。この論文を読んだあなたは、もしかしたら右手に AI、左手に筆を持っているかもしれません。

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Digitally disengaged and distracted

Digital devices increasingly dominate our world. Artificial Intelligence (AI) operates beneath the surface in products and delivery systems, and is the driving force of innovation in new products from self-driving cars to the Internet of Things (IoT). Computers and robots can already surpass human ability in routine tasks, as well as sophisticated navigation and problem solving.

While digital domination delivers convenience, increased accuracy, and better monitoring, it is socially disruptive as it accelerates change, and will put many jobs at risk. AI is creating radical transformation in manufacturing, retail, delivery, transportation, travel and hospitality, as well as professions ranging from medicine to law to finance.

While the media tend to focus on how it will impact employment, there is another consequence of digital domination that may have damaging effects on mind and body. As our tools get smarter, the way that we engage with high-tech tools is putting our hands, and perhaps our brains into early retirement.

Convenience tends to make us sedentary. A flurry of articles and infographics caution that *sitting is the new smoking*, and that long hours of sitting can actually shorten your life, increasing the risk of cancer and cardiovascular disease.

Bret Victor, who worked for Apple as a Human-Interface Inventor, cautioned that our interaction with digital technology is reducing the use of our hands to simplistic swiping and tapping motions on glass screens. In his article, *A Brief Rant on the Future of Interactive Design*, he contrasts the active actions of hands in

manipulating and feeling real objects, to the passive gestures of swiping over pictures under glass.

Consider how fully the hands engage the senses and the brain when interacting with physical objects. Familiar activities such as writing, brushing your teeth, wringing a cloth, peeling fruit, or making pottery, offer a rich range of experience for the brain. Mindful engagement in daily life is at the core of traditional Zen practice. By comparison, consider how absent-minded and passive the hands and senses are when staring at or swiping a finger on a smart phone or tablet screen.

Much of our time spent looking at touch screens is spent online, where our attention is constantly distracted by interruptions, push notices, and social media, leading to shrinking attention spans. The amount of time spent concentrating on a single task is further reduced by multi-tasking. Doing multiple tasks at the same gives the *illusion* of being more efficient, while in fact is the *dilution* of our powers of concentration, leaving us both disengaged and distracted.

Digital devices have taken up permanent residence in our lifestyle, and more are coming. Since they provide us with comforts and conveniences, and are intricately tied into the way that society delivers products and services, how can we continue to enjoy their benefits, without succumbing to their side effects?

How can we put our hands and our brains back into service, in a way that improves our concentration and creativity?

Engaging the brain with handwriting

Although people handwrite less often and less well than before digital devices were available, it is ironic that there is still a strong demand for stationary goods, pens and writing instruments. Perhaps our hands feel restless with prolonged idleness. We want to possess writing instruments, even if we don't use them.

Maria Konnikova writes in a New York Times article, *What's Lost as Handwriting Fades*, that handwriting provides many benefits to the brain, and should not be

considered a thing of the past. Educators in the United States are only teaching legible handwriting in Kindergarten and First Grade, and from then on emphasizing keyboard skills. Yet psychologists and neuroscientists are finding strong links between handwriting and educational and brain development. Children who learn to write first not only learn to read faster, but are better at generating ideas and remembering information.

According to Konnikova: “*Two psychologists, Pam A. Mueller of Princeton and Daniel M. Oppenheimer of the University of California, Los Angeles, have reported that in both laboratory settings and real-world classrooms, students learn better when they take notes by hand than when they type on a keyboard.*” And yet you see more laptops than notebooks in the modern college classroom.

William R. Klemm, PhD, writes in *Psychology Today*, *Why Writing by Hand Could Make You Smarter*, that there is strong scientific evidence showing that handwriting is superior to keyboard entry in terms of learning benefits. This has spawned an entirely new field of research called *Haptics*, which studies the interactions of touch, hand movements, and brain function.

The *cortical homunculus* is a grotesque looking figure of the human body with body parts proportioned according to how the brain sees the body. It was first mapped by brain surgeon Wilder Penfield in the 1930s. The hands are enormous compared to other parts of the body. The face, lips and tongue are also shown much larger on the *homunculus* than on an actual human body. This shows how important it is to keep the hands and the five senses engaged and the brain active.

The importance of handwriting to cultivate intelligence has also been taken up by the Wall Street Journal, in articles such as, *How Handwriting Can Make You Smarter*, and *How Handwriting Trains the Brain*. Focused on practical results, even the business world is promoting a revival in handwriting for note taking and creativity.

Digital is here to stay. But that is no reason to throw out its analog cousin.

Shodo in the Digital Age

Handwriting has been getting a fair share of attention by neuroscientists and the media. However, there is an art form more ancient, and far more sophisticated than handwriting, that of *Shodo*, or Brush Calligraphy, which produces even greater benefits to the brain in learning, concentration, and creativity.

Drawing on the ancient tradition and practice of Chinese Calligraphy, Shodo has survived and thrived for centuries, mostly in China, Japan, Taiwan, and Korea. Although it tends to be viewed as a specialist art or hobby, those who practice it experience tangible benefits in mind and body. Brush writing has traditionally been taught in elementary school. However, like handwriting, far less time is devoted to brush writing in schools today than in the past.

Shortsighted educators and parents may think of it as an ancient art form with little practical value in a fast paced digital world. Yet it is precisely *because* we live in such a world that we need the benefits of Shodo. Under a skilled teacher, the practice of brush calligraphy can counterbalance the effects of digital domination, and tune our brains to higher levels of concentration and creativity.

To understand how this is possible, it is useful to see Shodo from the inside, how practitioners of Brush Calligraphy experience and practice it.

Calming the mind

Calligraphy has traditionally been viewed as a way to calm the body and spirit (*jing xialai* 静下来). It is not possible to paint characters well if the mind is agitated or distracted. The environment must be free of distractions. The preparation involves slowly grinding a *sumi* ink stick on a fine grained stone *suzuri* surface, producing a thick and fragrant ink for painting calligraphy.

In *Calligraphy and Power in Contemporary Chinese Society*, author Yuehping Yen compares the therapeutic effect of calligraphy to that of Chinese herbal medicine, subtle and gradual, with multiple effects (*qianyi-mohhua* 潜移默化), hidden and imperceptible, silent transformation. This begins with the grinding of the ink, but continues throughout the entire unhurried process of copying the master model or *tehon*, reviewing your work to make subtle improvements, and appreciating the final result.

This process was described by calligraphers in China such as Yu Shinan (558~638 AD) in the Tang Dynasty, who wrote that concentrating the mind harmonizes the spirit, and brings you in tune with the rhythm of nature. He wrote that when a person's energy is dispersed and distracted, then the written characters will be distorted and unstable.

Grinding of the ink and use of the brush to produce balanced characters on paper has a meditative effect that engages the senses and the body. The mind becomes free from distraction, and fully focused in the moment.

According to research cited by Yuehping Yen, experimental psychology has produced evidence that practicing calligraphy significantly reduces heart rate, slows breathing, and lowers blood pressure, comparing it to the effects of meditation.

A relaxed and responsive state of mind and body is conducive to better performance in music, sports, and performing arts. The practice of calligraphy can be a way for people in such fields to achieve this state by fine-tuning mind and body. Because the transformation is subtle and silent, it has lasting effects, and can transfer to other fields of performance.

The effects of a calm mind, subtle breathing, and increased awareness are also found in the martial arts. Great sword masters such as Miyamoto Musashi and Yamaoka Tesshu were also master

calligraphers, whose works are today considered national treasures.

Cultivating the character

Sho wa hito nari is a Japanese proverb which means, “Your character is revealed in your brush writing.” The deeper meaning is that your character can also be cultivated and improved through your brush writing. The Chinese term for this process is (*xiushen-yangxing* 修身養性), meaning *cultivate your moral character and nourish your inborn nature*. Even in English, the word *character* contains both the meaning of personality, and of written letters.

In Shodo, practice is done by copying master works by ancient and contemporary masters. While the idea of copying to develop creativity may seem counter-intuitive, it is at the core of all martial arts, traditional performing arts, and music. In Jazz it is impossible to improvise without first learning fundamentals. You cannot carry on a conversation in a foreign language without a fundamental mastery of vocabulary and grammar forms. The path to mastery begins by copying master patterns.

In brush calligraphy there are several stages used in copying a masterwork. *Mosha* 模写 is exact tracing on top of the model with semi-transparent paper. *rinsho* 臨書 is free copying with the model next to your paper.

Yuehping Yen explains that you start in *mosha* by attempting to duplicate the brush technique, which is hidden in the shape and rhythm of the characters. In *rinsho* you seek to copy the subtler movements of the hand and energy in the masterwork.

Mosha copying may produce a copy in form, but not yet in spirit (*xingsi yi shensi buyi* 形似一神似不一). Although is impossible to achieve a full and faithful reproduction in form and spirit, nevertheless this ideal is pursued in the belief that the spirit of the master will somehow transfer to you, and awaken

your own original character. Something wonderful rubs off when you spend time in such good company, and the effect is to *cultivate your moral character and nourish your inborn nature*.

There is no danger of becoming a clone through copying, because of the vast number of differences in circumstances, personality, and genetic makeup. Each person is unique.

Morioka Koshu is a master calligrapher, and the founder of the *Japan Graphologist Association* 日本筆跡診断士協会. He has dedicated a lifetime of study to how personality characteristics are revealed in handwriting. Research by the *Japan Graphologist Association* has demonstrated that improvements can also be made in behavioral and personality patterns by consciously making specific changes in handwriting. This is consistent with what calligraphers have known for centuries, that calligraphy operates at a deep subconscious level, and has a transformative effect on mind and body.

Tenouchi: in the palm of your hand

Tenouchi 手の内 is a Japanese word referring to the skill, power, or intentions that you hold in the palm of your hand. But it has a special meaning in Shodo, as well as in martial arts like Kyudo, Kendo, and Aikido. It refers to a special way in which you hold the brush, bow, or sword, which is firm but relaxed, and allows you maximum control and release of power through the instrument.

It is difficult to describe, though it is something like holding an egg without dropping or crushing it. *Tenouchi* takes years even decades to master, but is essential to mastery of the art. Beginners tend to hold too tightly or too loose, and move only the fingers or the wrist in an ineffective attempt to manipulate the brush. This is known as *kotesaki*, translated as the tip of one’s hand, and has the nuance of being superficial, disengaged, or even a using a cheap trick.

Tenouchi connects the body and the brain to the brush, which becomes an extension of the hand with sensory awareness and

expressive powers. By contrast, *kotesaki* movements produce a disconnect, a disengagement, a disingenuous defeat, which however can be overcome through training.

The Shodo brush is soft, flexible, and difficult to control until you learn to find, feel and engage the *inochige*, or core hairs at the center of the brush, which act like a spring connected to the paper through the tip of the brush. You need to engage this spring in three dimensions, and the thickness and quality of the line depends on how well you keep the spring connected to the paper with smooth transitions, good rhythm, and no hesitation. Of course there is no erasing of what you have painted, and any efforts to paint over or cover up what you have done are obvious to the trained eye.

Tenouchi must be finely tuned enough to feel the lines which connect the strokes both on and off of the paper, known as the *kimyaku* 氣脈. Not only the strokes, but

the characters and the entire composition is woven together by a lifeline of energy, which empowers the calligrapher and the calligraphy. Known in Chinese as *Qi*, or in Japanese as *Ki*, it is the creative life energy and our connection to nature. Master calligraphers recognize that without this connection you cannot create great calligraphy. Technique without this connection is at best a good forgery.

Tenouchi and *kimyaku* unify the brush and the hand, connecting also body and mind. That not only makes great calligraphy, but also creates mindfulness, concentration, and creativity.

Shodo activates the creative brain

The digital age has brought us benefits beyond our dreams in terms of convenience and access to information. At the same time, it threatens to disconnect us from nature by disengaging mind and body. Unchecked, it could transform us into slaves of the very devices that we invented to serve us.

Shodo is a time-tested traditional discipline that has been demonstrated to engage the brain and enliven your senses.

Dr. Fukuyama Hidenao, MD, PhD in Neurology, is Director of the *Human Brain Research Center* at the Kyoto University School of Medicine. He is also coauthor with a calligraphy master and a teacher of Shodo of a book in Japanese on *Shodo for Brain Training*, 脳トレ書道のススメ. His

research on the brain has verified the folk wisdom of “use it or lose it,” and demonstrates that we need to keep our brain active in order to lead a long and productive life. This book recommends Shodo as a means of brain training for modern people who are suffering from the sedentary side effects of convenience and inactivity.

The book explains that there is not one area of the brain that specializes in reading and writing, but rather that language, and particularly brush calligraphy engages many areas of our brain at once, visual, auditory, kinesthetic, olfactory, and motor skills, keeping the brain young and active, and extending life.

There is strong endorsement for Shodo and handwriting from psychology and neuroscience, supporting what calligraphers have known from experience for centuries. The benefits come not from the knowledge, but from the *practice* of Shodo.

As with diet, exercise, and other areas of life, knowing that something is good for you is seldom enough to get you to do it. Chances are that Shodo is not the first or only thing on your list of things you would like to do, if you only had the time. In conclusion, here are several tips on how to make room for Shodo in your life.

Practicing Shodo in a busy schedule

Many people who practice Shodo are busy and productive in other areas of life. Whatever your life style or situation, however many people and things compete for your attention, the secret is to simply to start.

1. Find a good teacher and commit to a schedule of monthly practice. Don't over-practice.

2. Keep it engaging and fun. Follow your before/after progress, not only in Shodo, but also in other areas of your life.
3. Read about and ask questions of people who practice Shodo. Find out what engages them.
4. Take an interest in Kanji, and learn about character origins and styles. Discover Shodo in daily life, in shop signs, packaging, and in print.
5. Learn about and enjoy the Four Treasures of Shodo: *sumi, suzuri, fude, kami* (ink, inkstone, brush, paper), as well as signature seals (*hanko, rakkan*).

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