



**Theorizing the Internal Movement of Lines:
A Manifesto for Unfolding the Lines in an Open Ecology**

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April 24th, 2025

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Abstract: Bringing together Tim Ingold's anthropology of lines, the internal movement of Chinese calligraphic lines described by Zhenzhong Qiu and the philosophies of Gilles Deleuze and Felix Guattari, I argue that the internal movement of lines, as a concept in its own right, can be fused into the understanding of lines in the world in an open ecology. This argument is further enriched by discussions on Deleuze's concept of the fold, where I demonstrate that the line and the fold are able to transform into one another. The concept of the internal movement of lines, eventually, is an lively image of the folding and unfolding of life and its multiplicity.

Keywords: lines, the internal movement of lines, the fold, the ecology of lines, traces and threads, the plane of immanence and the plane of composition

One: Towards an Ecology of Lines

We, as embodied human beings, make our paths through the stream of time. However, just as the scenery around us always shifts during walks, the world we live in is in constant flux as we go. We may set ourselves certain objectives, only to find our paths lead us into unexpected territories. As we weave our ways through, these unexpected territories and the paths do not oppose but connect -- they are growing lines of life on an open field. As Tim Ingold suggests, to live is to move along lines.¹ Lines would encounter other lines and all these lines form into open meshworks where they intertwine and move alongside one another. For him, lines are not the straight connection lines between dots in a modern western sense. Instead, lines are movements of constant becomings with no beginning or end. Ingold's comparative anthropology of lines is an anthropology that emphasizes connections rather than closed boundaries, becomings rather than fixed identities. For him, "to study both people and things is to study the lines they are made of."²

What human activities like walking, weaving, observing, singing, storytelling, drawing and writing have in common is that "they all proceed along lines of one kind or another."³ And if we look into the world that we dwell in, we will see that it is constituted by lines of all sorts. Including but not limited to: paths of walking, traces of animals' movement, handwritten lines, nervous systems, lines of light in motion-blur photography, spiderwebs, blood vessels, palm lines, mycelium, veins and the lines of growth in plants, woven fabrics, ropes, shoelaces, strings on musical instruments, electric wires, telephone lines, internet cables, metal chains, architectural contours (interior or exterior), lines in mapping, cracks in stones, wood grains,

¹ Tim Ingold, *Lines: a Brief History*, p2

² Tim Ingold, *Lines: a Brief History*, p5

³ Tim Ingold, *Lines: a Brief History*, p1

meridians in traditional Chinese medical system, lightning, rays of light or even lines of thoughts..... We indeed live in an ecology of lines.

I borrowed this term ecology of lines from a series of creative workshops organized by British language artist and curator Camilla Nelson, in which she facilitates conversations among artists to make works responding to Tim Ingold's writings on lines⁴. Camilla Nelson tends to keep the definition of the ecology of lines loose and open for creative practices. For me, the ecology of lines emphasizes the relationship between lines of different sorts and opens up the potential of a worldview or even a cosmology by perceiving and understanding our world through lines. In a way, the remainder of this thesis is about clarifying the ecology of lines and rendering it more lively through various means.

The fundamental understanding of how lines are made is different culturally. As for myself, my fundamental perception of lines is largely influenced by my practice in Chinese calligraphy. I started practicing Chinese calligraphy when I was seven and have continued practicing it to this day. In recent years, I have begun to realize Chinese calligraphy's subtle yet fundamental impact on my perception of the world. A sensual image that I often enact in the eye of my mind while interacting with the world around me is that of a Chinese brush softly touching the paper with its elasticity and leaves expressive and intertwining marks on the surface. What is fascinating about Chinese calligraphy is that the calligraphic lines not only suggest an external movement of the contours but also an internal movement within the lines. It seems to me that there is a subtle and yet profound connection between the experience of the calligraphic movement and that of life. Perhaps, the unique internal movement

⁴ Camilla Nelson, Towards an Experimental Ecology of Line Workshops:
<https://www.singingapplepress.com/towards-an-experimental-ecology-of-line>

within Chinese calligraphic lines has something to contribute to the discussion of the ecology of lines. This thesis begins with such intuition.

What are lines? How are lines made? How do they connect? What is their relationship to the surface or plane? Do lines have a life in the environment? My thesis aims to bring together Tim Ingold's anthropology of lines, the Chinese calligraphy theory of scholar and artist Zhenzhong Qiu and the philosophies of Gilles Deleuze and Felix Guattari in order to examine Chinese calligraphy's formal uniqueness and address its radical potentials in an ecology of lines. This bringing-together, to be more specific, is about extracting the internal movement of lines from Chinese calligraphy and demonstrates how it, as a concept in its own right, can contribute to the ecology of lines. The hope is that through this joining, the ecology of lines is once again open up to new potentials and Chinese calligraphy could reincarnate in new forms to engage with the contemporary world. To this end, I will focus my discussions on Tim Ingold's taxonomy of lines, Zhenzhong Qiu's concept of the internal movement (内部运动)⁵ within Chinese calligraphic lines, with Deleuze and Guattari's philosophical concepts such as the plane of immanence and the fold serving as ground and reference for further theoretical development.

⁵ This concept "the internal movement" is my translation for Zhenzhong Qiu's term "内部运动." As far as I am concerned, there is no English translation of this term yet.

Two: the Plane of Immanence and the Plane of Composition

Before I get into Ingold or Qiu, I would like to refer to Deleuze and Guattari's concept of the plane of immanence and the plane of composition, for they offer a ground to understand the nature of the connection I am about to make between lines and the world. Deleuze and Guattari describe the plane of immanence substantially in their late work *What Is Philosophy*. Taken literally, the plane of immanence is a "plane" that exists in the realm of immanence that can be accessed by thinking. It offers an image of what thinking or philosophy could be. As Deleuze and Guattari write, "The plane of immanence is like a section of chaos and acts like a sieve. In fact, chaos is characterized less by the absence of determinations than by the infinite speed with which they take shape and vanish."⁶ The plane of immanence is like a surface or a platform slicing through the infinite cosmos that emphasizes certain intensities without losing connection to others. Although the plane of immanence extends beyond thinking, it is a helpful tool for thought because it is easier to grasp than chaos itself. To Deleuze and Guattari, philosophy's task is thus "to give consistency without losing anything of the infinite."⁷ Or in other words, to explain, understand and conceptualize without losing connections and potentials.

One of Deleuze and Guattari's central concerns in *What is Philosophy* is to differentiate between philosophy and the arts, and to do so by distinguishing between a philosophical plane of immanence and an artistic plane of composition. While the plane of immanence is virtual, the plane of composition is possible. Deleuze and Guattari define the work of art as "a block of sensations, that is, a compound of percepts and affects"⁸ which can be located on the plane of composition. Whereas the

⁶ Deleuze and Guattari, *What Is Philosophy*, p42

⁷ Deleuze and Guattari, *What Is Philosophy*, p42

⁸ Deleuze and Guattari, *What Is Philosophy*, p164

plane of immanence is the ground for philosophy, the plane of composition pertains to the realm of art. It is the domain where artistic expressions—such as sensations, affects, and percepts—are organized and composed. This plane is not about representing reality but about creating new forms and experiences that evoke sensations directly. The plane of composition is subdivided into a technical plane of composition, which concerns the material of the artwork, and an aesthetic plane of composition, which concerns sensations.⁹ Material and sensation are interconnected deeply in artworks: “the sensation realizes itself in the material” and “the material passes into the sensation.”¹⁰

Although the plane of immanence concerns thinking and the plane of composition concerns the arts, they are in fact also interconnected. Philosophy and the arts both are means of confronting chaos by making it thinkable or perceptible. All thought begins in sense experience, in the becoming-other of the senses. The work of art is able to make the invisible visible and the imperceptible perceptible.¹¹ In this sense, the arts are able to expand the territory for thinking to take place. Thinking is able to actualize the virtual, but virtual remains immanent within the actual through forms of sensations.¹²

⁹ Konald Bogue, *Deleuze on Music, Painting, and the Arts*, p168

¹⁰ Konald Bogue, *Deleuze on Music, Painting, and the Arts*, p169

¹¹ Konald Bogue, *Deleuze on Music, Painting, and the Arts*, p178

¹² Konald Bogue, *Deleuze on Music, Painting, and the Arts*, p183



Tim Ingold's graph in *the Life of Lines* p149, "Figure 29.2 Articulate and personal knowledge."

In fact, it can be seen as a possible visualization of the plane of immanence.

In *What is Philosophy*, Deleuze and Guattari argue that all thought entails an "image of thought."¹³ The plane of immanence could be understood as Deleuze and Guattari's visual metaphor of the site that thinking and philosophy take place.

Visually, we can imagine it as a fluid surface consisting of drifting and intertwining lines slicing into the chaos of the world. The plane of composition can be imagined in a similar way only that it is not concept but percepts and sensations that constitute this plane. These planes emphasize movement, connection and becoming.

Now the question is: how do the plane of immanence and the plane of composition connect with the ecology of lines? The key to this question is about understanding the relationship between material presence, sensation and thinking. The ecology of lines consists of infinitely many lines in the world, whether they are material threads, traces or invisible lines of thinking or sensation. Although the ecology of lines primarily emphasizes the material presence of lines, sensation and thinking are always tied deeply to these lines. How is weaving and writing possible without human hand and care? How can architecture be built without a vision and a plan? In fact, lines of sensation or thinking can be found almost everywhere in the

¹³ Deleuze and Guattari, *What Is Philosophy*, p81

ecology of lines. They are integral parts of the ecology of lines, just as both the plane of immanence and the plane of composition are “planes of nature.”¹⁴

Chinese calligraphic lines, as a particular type of line in the world, participate in the ecology of lines. Thus, my work here is to figure out: how do Chinese calligraphic lines participate in the ecology of lines? What is its formal uniqueness crucial to the ecology of lines? How can it shed light on our sensation and thinking through lines? It is important to notice that my work here is about the theorization of lines through Chinese calligraphy rather than a study of traditional Chinese calligraphy itself. It is also an invitation to Chinese calligraphers to participate in an open field of line-making which does not exclude Chinese calligraphy at all but welcomes it with arms wide open. Before bringing Chinese calligraphy into the discussion, I will first examine the taxonomy of lines by Ingold and see how Chinese calligraphic lines would fit in.

¹⁴ Konald Bogue, *Deleuze on Music, Painting, and the Arts*, p184

Three: Tim Ingold and the Taxonomy of Lines

Tim Ingold turns toward the study of the lines beginning in *Lines: a Brief History*, in which he names such a task “a comparative anthropology of the line.”¹⁵ For him, to study both people and things is to study the lines they are made of. What walking, weaving, observing, singing, storytelling, drawing and writing have in common is that they all proceed along lines of one kind or another. Lines, for Ingold, are never linear in the modern western sense. In modern western thinking, linearity is represented by a straight line connecting two dots -- a static image of rationality and control. In contrast, lines for Ingold are not straight -- they are “the paths of growth and movement”¹⁶ that represent life. On top of this, Ingold calls himself a “linealogist.”¹⁷

For Ingold, most lines are either thread or trace: “a thread is a filament of some kind, which may be entangled with other threads or suspended between points in three dimensional space” while “a trace is any enduring mark left in or on a solid surface by a continuous movement.”¹⁸ Strings, ropes, fishnets, hair and hyphae are threads. Traces include additive traces (such as charcoal drawing on paper) and reductive traces (such as engraving on stone). There are also lines that are neither thread or trace, those are the cracks on surfaces and the ghostly lines constructed under certain belief systems such as in the traditional Chinese meridian system.

Ingold emphasizes that this taxonomy is not definite because threads and traces in many cases transform into one another. In reality, they each stand as a

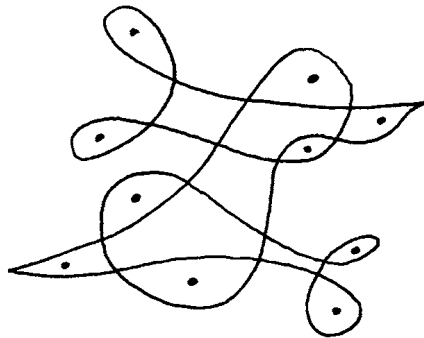
¹⁵ Tim Ingold, *Lines: a Brief History*, p1

¹⁶ Tim Ingold, *Lines: a Brief History*, p5

¹⁷ Tim Ingold, *the Life of Lines*, p53

¹⁸ Tim Ingold, *Lines: a Brief History*, p41-43

transformation of the other: “Threads may be transformed into traces, and traces into threads. It is through the transformation of threads into traces that surfaces are brought into being. And conversely, it is through the transformation of traces into threads that surfaces are dissolved.”¹⁹ In the example of knitting and embroidery, knitting is bound using yarns (threads) into pattern (traces), and the knitting forms a surface to hold the traces. While embroiderer, on the other hand, starts with traces on a surface but translates those traces into threads with the needle. Another example is that of the designs drawn by women in Tamil Nadu, South India, on the thresholds of houses and temples that function as protections from demons. Ingold’s argument is that these designs, though are drawn on two dimensional surfaces as traces, function as threads in the sense that they would trap demons like labyrinths. This is visually and phenomenologically achieved with the dots on the surface, as if “the very surface upon which it is drawn so that it appears as a labyrinthine mesh of threads along which all of life and existence is constrained to run.”²⁰



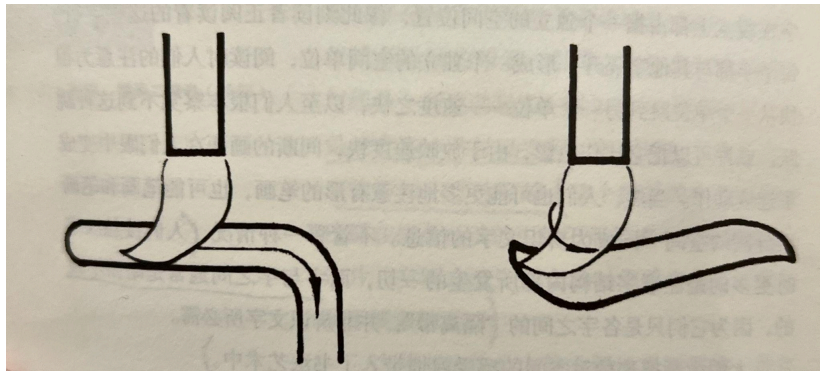
From Tim Ingold’s *Lines: a Brief History*, koḷam designs from Tamil Nadu, South India, drawn from a photograph by Amar Mall. (2007)

¹⁹ Tim Ingold, *Lines: a Brief History*, p52

²⁰ Tim Ingold, *Lines: a Brief History*, p57

Four: Zhenzhong Qiu and the Internal Movement of Chinese Calligraphic Lines

Handwritten Chinese calligraphy would fall under the category of additive traces in Ingold's taxonomy of lines. Now we may turn to Chinese calligraphy and identify its formal uniqueness crucial to the open ecology of lines. According to Chinese calligraphy theorist and artist Zhenzhong Qiu, Chinese calligraphy's most important formal uniqueness among all art forms lies in its lines' "internal movement" created exclusively with the Chinese brush. "The movement of lines is a feature that every calligraphic line has. However, the extremely complex internal movement of lines only exists in calligraphy done by Chinese brushes: any calligraphic lines created with other calligraphic tools are not physically capable of forming such sophisticated and rich internal movements. Internal movement is the most important reason that makes Chinese calligraphy an unique and meaningful independent artistic form."²¹

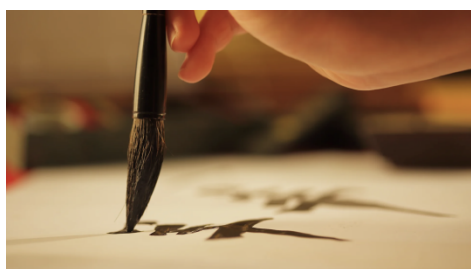


Left: the external movement of a curve (曲线平动) Right: the twist (绞转)
From Zhenzhong Qiu, *Chinese Calligraphy* 书法, p57

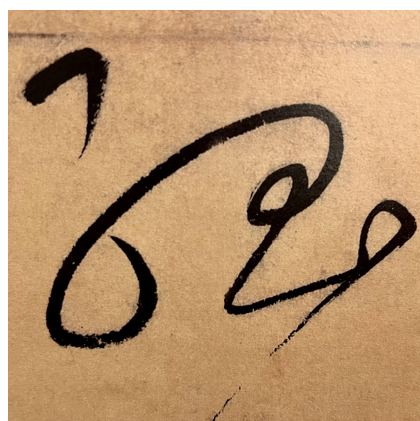
According to Qiu, there are two types of movements in Chinese calligraphic lines, and they lead to two types of spatial formations. The first type of movement is

²¹ Zhenzhong Qiu, *Chinese Calligraphy* 书法, p56-57

the external movement (平推) of lines, which is the common type of movement that exists in writing or drawing in any medium. The second type of movement, on the other hand, Qiu calls it the internal movement (内部运动) of lines. It is a unique type of movement that only exists in Chinese calligraphy because of the materiality of the Chinese brush. The circular cone shaped nib of Chinese brushes are made of animal furs, making them soft and elastic. Only using brushes with softness and elasticity, can one write lines with complex contours by applying different pressures (提按) and especially twists (绞转). Twist is the technique of adjusting the brush's angle in relation to the surface and physically turning the brush's side as one writes. For instance, we can easily see the external movement of lines in character on the right below -- it is basically the trace of the brush through which the character is formed. If we pay closer attention to the rich texture within the lines, the constantly shifting contour of the lines and where the lines twist and turn, we can identify a delicate rhythmic and expressive movement -- the internal movement. The internal movement, for Qiu, is the essential formal attribute that makes Chinese calligraphy a distinct visual art form.²²



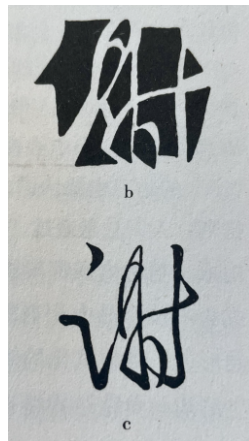
From internet, Chinese brush



From Huai Su (737-799), *Autobiography* 自叙帖,
the internal movement of the line is especially visible
at each twists and turns

²² Zhenzhong Qiu, *The Form and Interpretations of Chinese Calligraphy* 书法的形态与阐释, p28

Qiu argues, the external movement of lines in Chinese calligraphy, by dissecting the emptiness of the surface, creates many unit spaces (单元空间) along its way within the characters. These unit spaces are two dimensional, suggesting an unified surface below. The figure below show hows unit spaces are formed in the character 谢. The internal movement, on the other hand, forms a second space in Chinese calligraphy -- that suggestive of the three dimensional space. “Every point and line in the works are like ribbons floating in the air -- their different sides overlaps and twists together,”²³ describes Qiu. To him, the ability to sense volume and weight through lines is crucial to understanding Chinese calligraphy.



From Zhenzhong Qiu, *The Form and Interpretations of Chinese Calligraphy* 书法的形态与阐释, p19

However, it is important to notice that these two types of movements and spaces are inseparable. They are one, for they are all generated by the movement of lines simultaneously: “These unit spaces flow together with the lines...Though passive spaces exist in the gaps between characters, they are involuntarily traversed by moving lines. All spaces in the work of calligraphy, following the guide of lines’ movements, thus converge into a ‘stream of space’.” This leads to the fourth dimension of Chinese calligraphic works -- that of time.

²³ Zhenzhong Qiu, *The Form and Interpretations of Chinese Calligraphy* 书法的形态与阐释, p33

The complexity of movements makes the sense of motion evident in Chinese calligraphy, perhaps more than most visual art forms. Sense of motion in visual arts are usually visual hints of movement rather than movement itself. However, Qiu argues that “this hint almost reaches its climax in Chinese calligraphy -- Chinese calligraphy sits at the threshold between plastic arts and time-based arts.”²⁴ Works of Chinese calligraphy are to be viewed by the viewer’s eyes following the trace of the brush in order of the lines being made. Its temporal flow resembles film in the way that there is an evident duration of time in its viewing and creating, only that the participants in Chinese calligraphy have perhaps more autonomy to let their eyes move freely in time compared to film. Furthermore, Qiu argues that time and space intertwine in the very formation of three dimensional spaces through internal movement of lines: they are in a “symbiotic” relationship that one cannot exist without the other.²⁵

²⁴ Zhenzhong Qiu, *The Form and Interpretations of Chinese Calligraphy* 书法的形态与阐释, p38

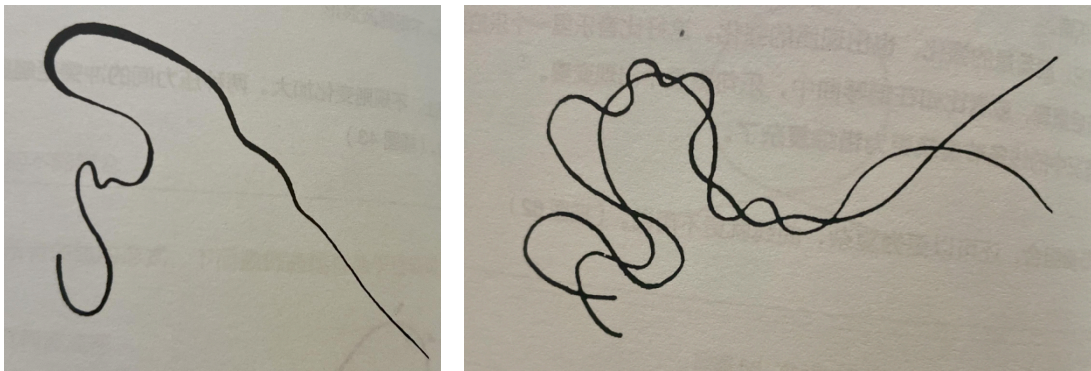
²⁵ Zhenzhong Qiu, *Chinese Calligraphy* 书法, p60-61

Five: the Internal Movement of Lines and the Transformation of Traces into Threads

How can Chinese calligraphy contribute to the ecology of lines? From the analysis above, I believe I have shown the formal uniqueness of Chinese calligraphic lines lies in the internal movements within the lines and the suggestive three dimensional space being generated. On top of this, I argue that Chinese calligraphic lines, with their internal movements, are able to transform from traces into threads by only using a single line, making the surface rather fluid. This is not to say that the calligraphic lines actually become threads that physically travel through space like strings do. Similar to Tim Ingold's argument that the ko¹lam designs, though drawn on two dimensional surfaces as traces, are able to function as threads to trap demons for the Tamil Nadu people, the internal movements of Chinese calligraphic lines have the potential to transform the lines into threads with weight and thickness in the eyes of the viewer.

This is an entirely different situation compared to other freehand lines. Almost all freehand lines in modern western understanding (for example in Wassily Kandinsky's experiments with lines) attempt to suggest the sense of three dimensional space through formation of lines' external movements and sometimes with aids from points or planes. Chinese calligraphic lines, with evident internal movements accomplished by masterful techniques, are able to single-handedly transform itself into threads for the viewer. Thus, the unique experience of appreciating Chinese calligraphy is not only of watching the lines "dance" but also of witnessing the surface disappear and reappear correspondingly to the rhythm and the internal movement of the lines. This discovery would be a rich contribution to Tim Ingold's

comparative anthropology of lines. Ingold did discuss the embodied gesture of Chinese calligraphy,²⁶ but he did not emphasize Chinese calligraphic lines' formal uniqueness regarding the relationships between traces, threads and surfaces. The internal movement extracted from Chinese calligraphic lines has the potential to bring the perception and imagination of lines a step further. As the interior and contour of lines get blurred by their internal movements, the inside and the outside, or the line and the world form a fluid relationship. This is, in a way, a vivid image of subjectification. I will come back to this later in my discussion of Deleuze's the fold.



From Wassily Kandinsky, *Point and Line to Plane*, figure 44 and figure 63,
it could be seen as a model for lines in the western sense. Although the line in the left image changes its thickness,
there is no visible internal movement.

Now is a good time to take a step back and reflect: is my approach to Chinese calligraphy an over theorization? In fact, this worry is reasonable. The quality of the internal movement of lines varies among different calligraphers and it is not as evident in some Chinese calligraphy styles such as Zhuanshu (篆书) and Lishu (隶书) comparing to others such as Caoshu (草书) and Xingshu (行书). Qiu acknowledges this fact and continues to emphasize Caoshu as his major interest because he believes it manifests the essence of Chinese calligraphy the most. Another major concern

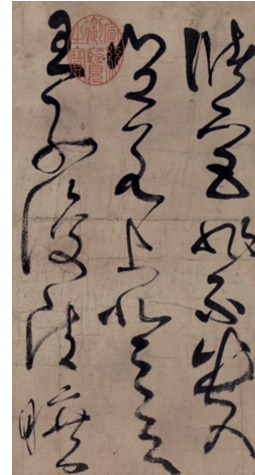
²⁶ Tim Ingold, *Lines: a Brief History*, p131

would be: am I excluding the textual and linguistic aspect of Chinese calligraphy?

According to Qiu, abstract ink arts using elements of Chinese calligraphy but containing no characters shouldn't be characterized as Chinese calligraphy, but deep down at their core they connect deeply with Chinese calligraphy.²⁷



Li Si (280-208 bc.), *Yishan Stele* 峄山刻石, in *Zhuanshu*



Xu Zhang (658-747), *Four Ancient Poems* 古诗四帖, in *Caoshu*

Facing these potential challenges, my defense is that I am not at all claiming that my work here is about Chinese calligraphy itself -- it is rather about extracting a unique formal attribute in Chinese calligraphy, theorizing it, and to generate its intersection with the ecology of lines. This is the formation of a “plane of immanence” in Deleuze and Guattari’s sense. In fact, Chinese calligraphy already participates and is participating in this plane by simply existing. As we know, the plane of immanence is not a flat surface -- it is a plane with thickness and flux, echoing the fluid surface generated by internal movements of the Chinese calligraphic lines. Like all creations, this is a generative gesture into the unknown, a “line of flight” in the Deleuzian sense.²⁸ The hope is that, by weaving a path far from tradition and into the world, the essence of tradition will be reincarnated into new forms.

²⁷ Zhenzhong Qiu, *The Form and Interpretations of Chinese Calligraphy* 书法的形态与阐释, p257

²⁸ Gilles Deleuze and Felix Guattari, *A Thousand Plateaus*, p9

Six: Whorls, Walking, and Breathing

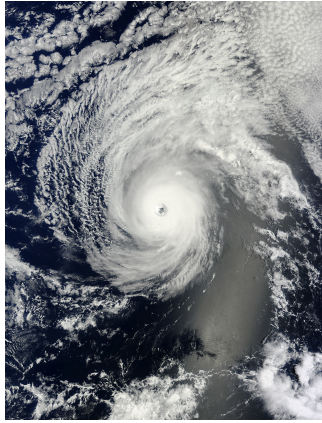
How does the internal movement within lines connect to what is outside of the line and the environment? Where are the internal movements of lines in the ecology of lines? Although Tim Ingold does not talk about the movement within lines themselves in his writings, his discussions on whorls, walking and breathing share a strong bond to the internal movement of the line.

For Ingold, the whorl is the generative force of the line, as it converts “circulation into linearity.”²⁹ Ingold gives several examples of the whorl, including the storm, spindle whorl, tree knot and snail. The storm is not a coherent, self-contained mass that moves from point to point across the sky. It is, says Ingold, a “movement in itself,” a “winding-up that unwinds on the retreat.”³⁰ The storm gathers its momentum through its whirl – the joining of countless curves – and advances along a line, just like thousands of furs on the Chinese brush twist together and generate expressive strokes. Spindle whorl used in rope-making is a device to wind wools into ropes by spinning. Again, it generates lines from a whorl, a whirl that gathers momentum. Branches grow from tree knots, and tree knots bear an uncanny resemblance to the whorl of the storm. Snail, “the animal with a whorl on its back,” moves along lines in an interesting way: it “pushes its front body forwards against its posterior resistance,” “pulls up at the rear” and repeats the cycle over and over again. This rhythmic push-pull cycle of the snail’s movement, for Ingold, is “fundamental to most animate creatures including humans.”³¹

²⁹ Tim Ingold, *the Life of Lines*, p56

³⁰ Tim Ingold, *the Life of Lines*, p54

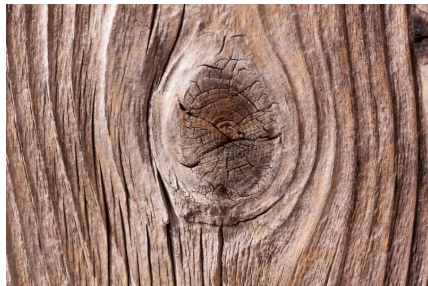
³¹ Tim Ingold, *the Life of Lines*, p58



From Tim Ingold, *the Life of Lines*, p55
the storm from space



From Internet, bronze age spindle whorl



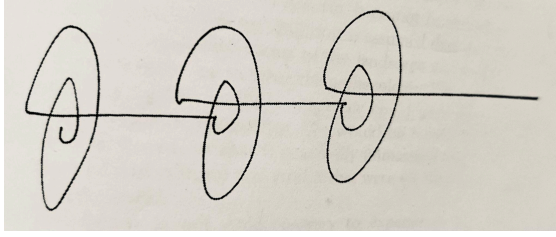
From Internet, tree knot



From Internet, snail

We humans engage in this push-pull cycle through simply walking and breathing. We do not walk in vacuum but animate spaces full of air, or wind. We “breathe the air and walk the ground.”³² As we walk, each step is a preparation for the next: one of our legs swings to the back because there is a simultaneous forward impulse by the other leg. Similarly, “the dying of each breath prepares the birth of the next.” These push-pull cycles echo the movement of Chinese calligraphic lines. In writing these lines, the calligrapher’s hand changes its rhythm and speed corresponding to each twist and turns. The lines gather momentum from each pulse, change direction and move along. In a way, the internal movements of Chinese calligraphic lines are partial whorls that twist.

³² Tim Ingold, *the Life of Lines*, p64



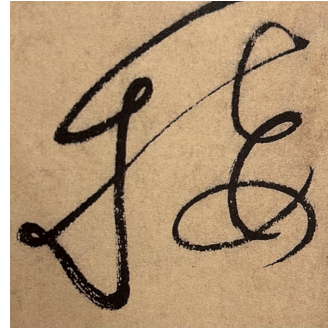
From Tim Ingold, *the Life of Lines*, p67

three successive breaths,

“every whirl is taking in of air,

and every extended line a letting out that passes from behind

and through the eye of the whirl, on its way to the next.”



From Huai Su (737-799),

Autobiography 自叙帖,

Chinese calligraphic lines as partial whorls

What walking, breathing and the whorls have in common is that they are all deeply connected to their surroundings, or the environment they inhabit. The storm is in a way the accumulation of the atmosphere around it, branches emerge from tree knots with the sun, the wind, the solid earth and the tree itself providing nutritions, we breathe the air and walk the ground... “It is from their exposure to weather that beings draw from the medium the inspiration, strength and resilience to carry on along their line.”³³ In this sense, the internal movement of the line is never self-enclosed. The internal movements within the line occur as a result of its surroundings – the internal movements are simultaneously the line’s expressive gestures on the plane of nature and the marks of the world upon the line itself. In a way, lines carry the folds of the world upon themselves as they go...

³³ Tim Ingold, *the Life of Lines*, p71

Seven: Gilles Deleuze and the Fold, or How the Line and the Fold Morph Into Each Other

In his book *the Fold: Leibniz and the Baroque*, Gilles Deleuze explores the philosophy of Leibniz and the aesthetics of the Baroque period to develop a metaphysical framework that emphasizes complexity, continuity, and transformation. This effort is condensed into descriptions of “the fold,” a concept that he develops with the Baroque aesthetics from architecture to textile. “The Baroque trait twists and turns its folds, pushing them to infinity, fold over fold, one upon the other. The Baroque unfurls all the way to infinity.”³⁴ For Deleuze, the fold is more than a physical or artistic trait; it is a philosophical concept that describes how the world is structured and how subjects are formed. He posits that the universe is composed of an infinite series of folds, where each fold is a “point of inflection” (a term he took from mathematics) that connects the inside and the outside, the material and the immaterial. This notion challenges traditional Cartesian dualisms by suggesting that the internal and external are not separate realms but are continuously intertwined through the process of folding and unfolding. From the Japanese origami, the fold of the newspaper, dust or mist, to the fold of the Event, the fold can be found almost everywhere in the cosmos.³⁵

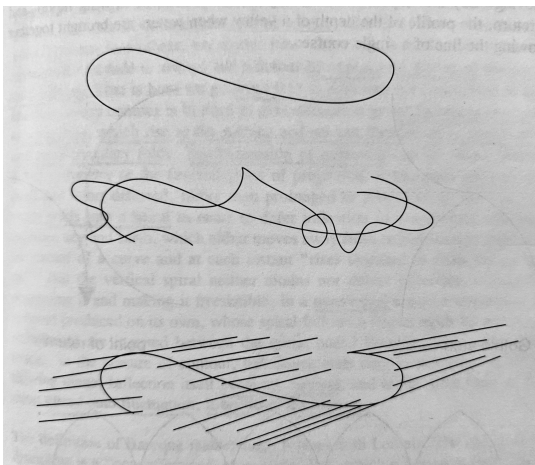
It is my intention here to argue, perhaps boldly, that folds are in many ways lines just as lines are like folds. Folds and lines are in topological relationships in which one can easily morph into one another. How is this the case? As I have demonstrated, lines are not perfectly smooth entities nor pure movement of points without thickness. By theorizing the internal movement within Chinese calligraphic

³⁴ Gilles Deleuze, *the Fold: Leibniz and the Baroque*, p3

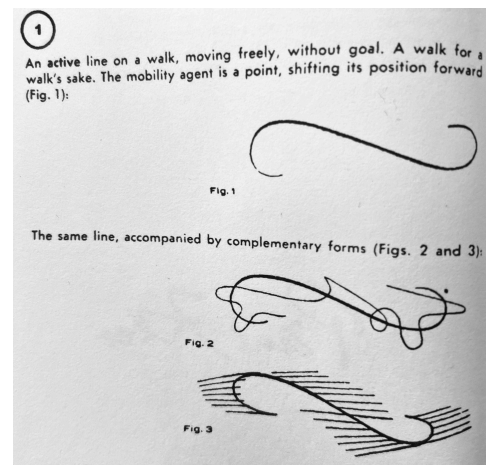
³⁵ Gilles Deleuze, *the Fold: Leibniz and the Baroque*, p6, 31

lines, I have shown that lines have the potential to be untied from the surfaces that bond them or even remain fluid within their own bodies. It is exactly this potential, the internal movement of lines, that grants lines the capacity to transform into folds or to be understood as folds. To unpack this requires a closer examination of Deleuze's writing on the fold.

Although Deleuze does not directly state that lines are folds, there is some evidence that lines could be “stretched” into folds in his writing. He says, “the unit of matter, the smallest element of the labyrinth, is the fold, not the point which is never a part, but a simple extremity of the line.”³⁶ What is this “extremity of the line?” It seems Deleuze is saying here that the line has the potential to become the fold, but it requires a push. In the following chapter, Deleuze offers an analysis of the inflections on the fold by starting with Paul Klee's three sketches.



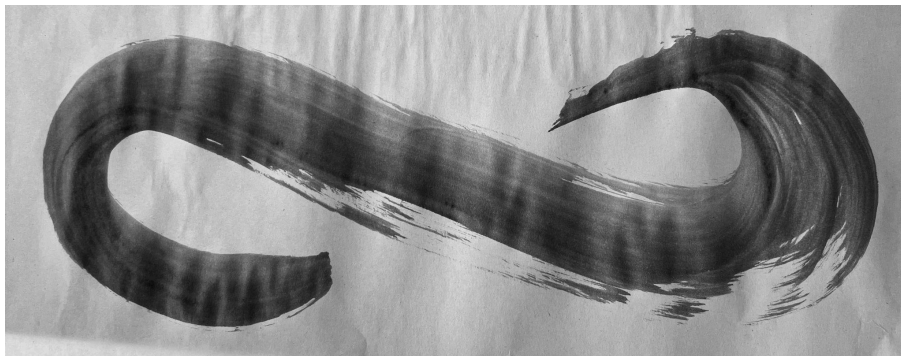
From Gilles Deleuze, *the Fold: Leibniz and the Baroque*, p15



From Paul Klee, *Pedagogical Sketchbook*, p16

³⁶ Gilles Deleuze, *the Fold: Leibniz and the Baroque*, p6

For Deleuze, the first graph on the top draws the inflection, the second “shows that no exact and unmixed figure can exist”, and the third “marks the convex side with shadow, and thus disengages concavity and the axis of its curve, that now and again changes side from the point of infection.”³⁷ The first graph is a curved line. The second graph adds another line that entangles with the first line, closely resembling Wassily Kandinsky’s graph that I have shown earlier. The radical potential, however, lies in the third graph, where many shorter straight lines suggest the convex sides of the original line (it is better drawn in Klee’s original graph). Here, the line with its visible convex sides becomes a fold, a line on a surface (a trace) that transforms into a thread with the aid of other lines that create volume and mass around it. Isn’t this exactly the point of the internal movement within the calligraphic lines? In fact, in my remake of this graph using Chinese brush and calligraphic technique, a single line with its internal movement is able to express the same effect. This is direct evidence that the internal movement of lines is able to transform the line into a fold. Or put it simply, a line with internal movement is a fold!



My remake of Paul Klee’s graph with a single calligraphic line

By demonstrating that the lines with internal movement are folds, I am not at all devaluing the fold as a concept. Instead, I want to figure out what these two

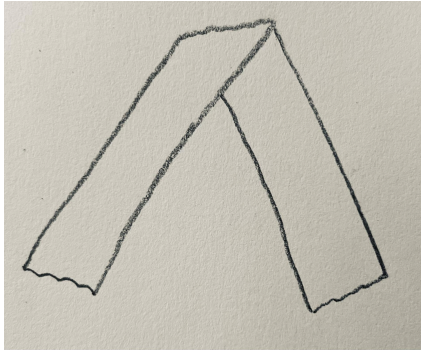
³⁷ Gilles Deleuze, *the Fold: Leibniz and the Baroque*, p14

concepts have to offer to each other. As I have argued, the line and the fold are in a close topological relationship and one can easily transform into another. However, they are still separate concepts with different emphasises. The line emphasizes a “squiggly continuity” that goes on with twists and turns, while the fold emphasizes the fluid boundary between different entities. The line offers a continuous image for the fold to follow, which Deleuze also acknowledges that “the problem is not how to finish a fold, but how to continue it, make it go through the roof, take it to infinity.”³⁸ One could say, to unfold the fold infinitely is to draw “a line of flight” with no beginning or end that connects all the folds. On the other hand, what does the fold have to offer the line?

³⁸ Gilles Deleuze, *the Fold: Leibniz and the Baroque*, p34

Eight: the Multiplicity Within Lines, a Life

If we draw a simple graph based on how folds appear to us on a daily basis from pieces of folded paper or cloths, it might look like this:

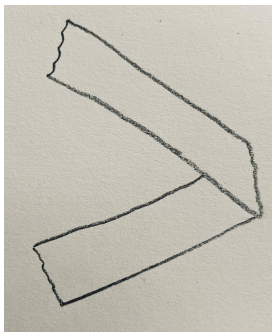


graph 1

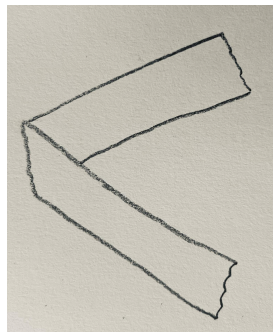


(I drew it based on my glasses cloth)

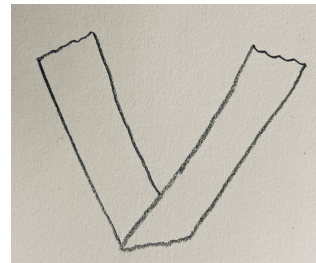
We can make variations to it by turning it like these:



graph 2

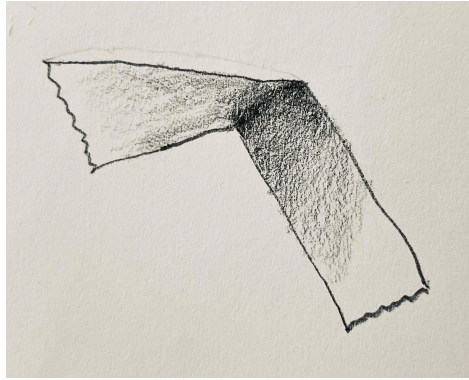


graph 3



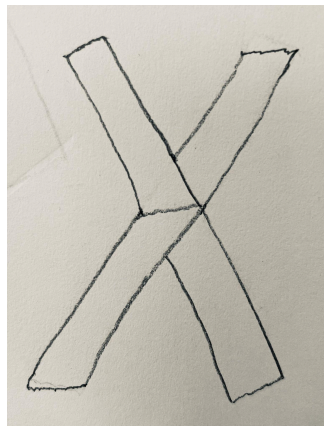
graph 4

In each variation, there are two planes intersecting, thus forming a line in between. However, to emphasize the continuity of the fold, we may remove this line in between and replace it with a shadow to suggest a curve, and this fold becomes a single line with internal movement:



graph 5

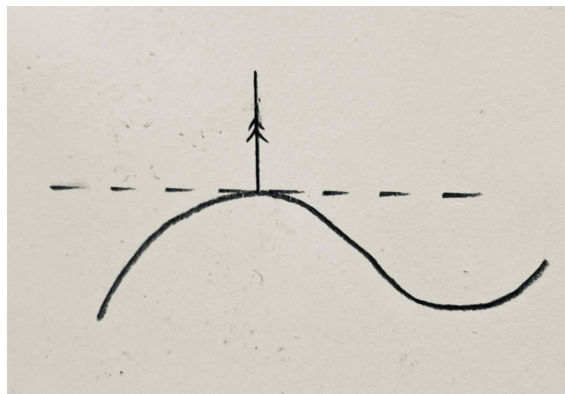
Another option we can take is to extend both planes and morph this fold into a cross shape, and it becomes two lines intersecting:



graph 6

From all these variations of a fold (especially graph 1, 5 and 6), we can draw an exciting discovery: since a fold is a line and the fold is also two lines intersecting, a line could be two lines intersecting. In other words: a fold could be viewed as constituted by two (or multiple) lines; a line with internal movement is of course a fold, but it is also a joint of two (or multiple) lines. This is what the fold has to offer the line: A line can be multiple lines while being itself at the same time, which means each line contains a multiplicity within themselves. In fact, Deleuze talks about the emanation of a line from lines in mathematical terms when discussing the

transformation of object and subject: “Moving from a branching of inflection, we distinguish a point that is no longer what runs along inflection, nor is it the point of inflection itself; it is the one in which the lines perpendicular to tangents meet in a state of variation. It is not exactly a point but a place, a position, a site, a ‘linear focus,’ a line emanating from lines.”³⁹ We might picture the situation like this, where another line emanates from the point of inflection of the curve perpendicular to its tangent:



A line emanating from the curve

What Deleuze is portraying here is the transformation of the subject, a “metamorphosis” of the becoming-other of the subject.⁴⁰ When a fold appears on a continuity, it also emits a line from the curve, a line that is another fold, lines after lines, folds after folds, lines after folds, unfolds to infinity... If we, again, use the language of the line, it is another line emanating within the original line’s internal movement. It does not begin from a point of inflection or tangents but simply from somewhere in between the line’s edges, since there are no absolute points in a mathematical sense on a line. Lines are like vortexes that spatially collapse within themselves. It seems, the intersection of multiple lines is not so different from a line with internal movement after all. A line with rich internal movements has the

³⁹ Gilles Deleuze, *the Fold: Leibniz and the Baroque*, p19

⁴⁰ Gilles Deleuze, *the Fold: Leibniz and the Baroque*, p20

potential or the virtuality of multiple lines within its body. In a way, a line is already a “rhizome” within itself.⁴¹ I want to insert a quote here from an interview that Deleuze did, for it ties lines and folds together beautifully in a simple yet condensed way:

“The thing is, everyone has habits of thinking: I tend to think of things as sets of lines to be unraveled but also to be made to intersect. I don’t like points; I think it’s stupid summing things up. Lines aren’t things running between two points; points are where several lines intersect. Lines never run uniformly, and points are nothing but inflections of lines. More generally, it’s not beginnings and ends that count, but middles. Things and thoughts advance or grow out from the middle, and that’s where you have to get to work, that’s where everything **unfolds**. So a multilinear complex can **fold back on itself** with intersections and inflections that interconnect philosophy, the history of philosophy, history in general, the sciences, and the arts. As though these are so many twists in the path of something moving through space like a whirlwind that can materialize at any point.”⁴²

This is exactly why the internal movement of line has such a radical potential, for it bears the tension, the flux, the metamorphosis all within the line itself. Just as folds differentiate and self-differentiate⁴³, lines twist and turn upon themselves. The internal movement of the line is eventually about subjectification, about the unfolding of life itself. In an interview about Michel Foucault, Deleuze said that subjectification is about “bringing a curve into the line, making it turn back on itself, or making force impinge on itself.”⁴⁴ This abstraction of life into lines, is an act of preserving the pure immanence of life: “We will say of pure immanence that it is A LIFE, and nothing else. It is not immanence to life, but the immanent that is in nothing is itself a life. A life is the immanence of immanence, absolute immanence: it is complete power, complete bliss.”⁴⁵ The internal movement of the line, in this sense, is the folding and

⁴¹ Gilles Deleuze and Felix Guattari, *A Thousand Plateaus*, p8

⁴² Gilles Deleuze, *Negotiations 1972-1990*, p161

⁴³ Gilles Deleuze, *the Fold: Leibniz and the Baroque*, p30

⁴⁴ Gilles Deleuze, *Negotiations 1972-1990*, p113

⁴⁵ Gilles Deleuze, *Pure Immanence: Essays on a Life*, p27

unfolding of life itself. What this concept offers is an ever lively image of the movement of life.

Again, we should perhaps maintain a basic difference between the line and the fold. The line emphasizes a continuity that twists and the fold emphasizes fluid boundaries as connection. When the line and the fold morph into one another, what we are witnessing is in fact continuity within ruptures and ruptures within continuity, or the flow of life. In recent years, Laura U. Marks reinterprets Deleuze's the fold through the lens of film and media studies, developing what she terms "enfolding-unfolding aesthetics."⁴⁶ This approach emphasizes the dynamic processes by which images and experiences emerge from, and return to, a folded, interconnected cosmos. It seems, apart from being lines, folds can also be understood as images that fold and unfold potential connections. What, then, is the relationship between lines and images? This, perhaps, could be an exciting starting point for another research...

⁴⁶ Laura U. Marks, *the Fold: From Your Body to the Cosmos*

Nine: Lines in the Open Ecology

Now the question remains, how to interact with the world through lines with internal movement? In fact, sensing the lines in the world intuitively is a longing that many master calligraphers have yearned for throughout their lives in the history of Chinese calligraphy. Qiu defines “seeking lines in the world” as an alternative way of practicing calligraphy: it requires a strong sensitivity of all aspects of the lines (quality, movement and rhythm, spatial formation) and a habit of frequently establishing connections between lines in the world and mental life.⁴⁷ However, there is a difference between sensing lines in the world and moving along with the world through lines. The former aims to represent observations of the world onto a surface, while the latter is about to live and act through the lines one makes corresponding to the world, the becoming-other of lines through lines.

Can art and the process of making art bring together the lines in the world and the process of line-making? According to Deleuze and Guattari, philosophy’s task is “to give consistency without losing anything of the infinite.”⁴⁸ Or put it simply, it is to explain, understand and conceptualize without losing connections and potentials. Can we draw a similar argument for art? Perhaps, it could be formulated as such: Art’s task is thus to create unique experiences without losing connections to other experiences. What does this mean? In the language of the line, it would mean to make some lines evident and leave their potential connections to other lines possible. As I have shown, lines are other lines within themselves with the potential to infinitely fold and unfold.

⁴⁷ Zhenzhong Qiu, *Chinese Calligraphy* 书法, p140

⁴⁸ Zhenzhong Qiu, *Chinese Calligraphy* 书法, p140

With this, I call for the birth of the new calligraphers. They are calligraphers of the lines in the world. They attend to the lines in an open ecology where they themselves live through the lines that they lay, and these lines intertwine with the lines in the world in a labyrinthine manner. They pay close attention to materialities, forms, connections, sensations and the internal movements of lines in the world, they make some lines evident when the time comes and the weather permits.

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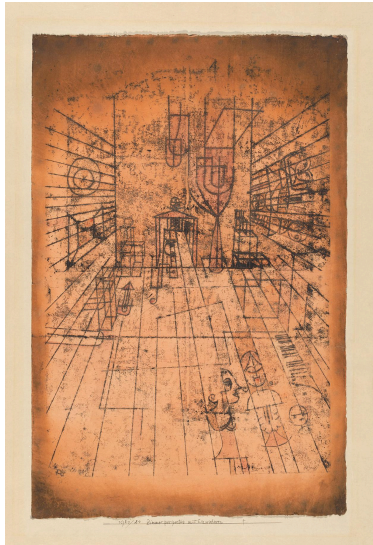
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Appendix: Plates of Some Relevant Artworks

*Many of these artwork are taken from Cornelia Butler's *On Line: Drawing Through the Twentieth Century* published by The Museum of Modern Art

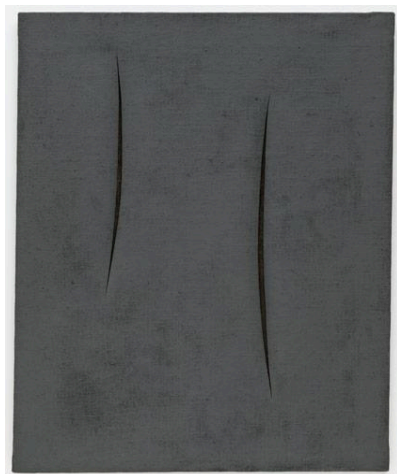
1. Paul Klee, Room Perspective with Inhabitant, 1921

Oil transfer drawing and watercolour on paper on cardboard, 48,5 x 31,7 cm



2. Lucio Fontana, Spatial Concept: Expectations, 1959

Synthetic polymer paint on slashed burlap, 39 3/8 x 32" (100 x 81.5 cm).



Inspired by Futurism, Fontana sought to escape the “prison” of the flat picture surface to explore movement, time, and space. In 1949 he first developed his Spatial Concepts, puncturing and piercing the surfaces of sheets of paper to reach behind and beyond the illusionistic plane into what he called “a free space.” In the late 1950s Fontana began to slash linear cuts into stretched canvases; shedding its materiality, the line became coextensive with infinite space.

3. Lygia Clark, *the Inside is the Outside*, 1963

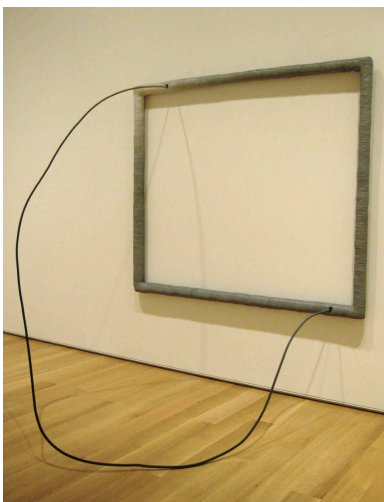
Stainless steel, 16 x 17 1/2 x 14 3/4" (40.6 x 44.5 x 37.5 cm)



In *The Inside Is the Outside*, Clark defied these structures by transforming a sheet of stainless steel into an open volume with no clear front or back, interior or exterior. By making linear cuts and exploiting the natural pliancy of the metal, she fashioned biomorphic curves, creating an object that brings together attributes that are often conceived as incompatible: subjective and objective, organic and inorganic, erotic and ascetic. Challenging the notion that works of art must be fixed and static objects, Clark envisioned this sculpture as participatory, inviting viewers to hold it and manipulate its shape.

4. Eva Hesse, *Hang Up*, 1966

Acrylic on cloth over wood, and acrylic on cord over steel tube, 72 x 84 x 78" (182.9 x 213.4 x 198.1 cm).



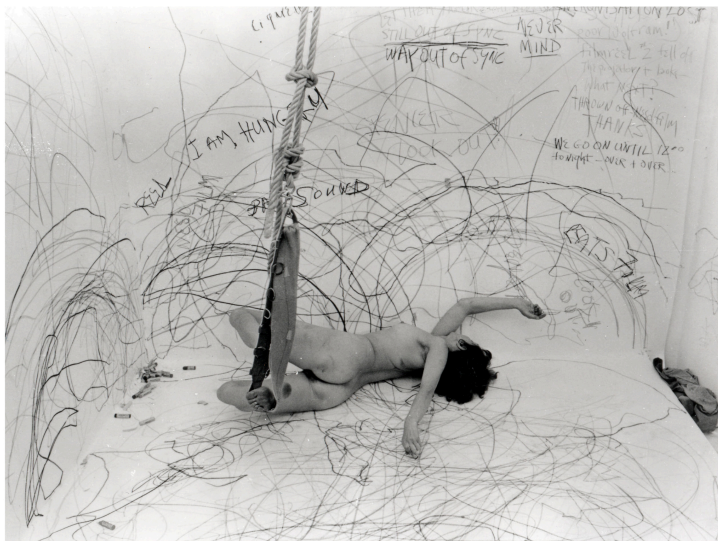
In its subtle hybridization of drawing and sculpture, line and color, *Hang Up* (shown here in the artist's studio) does not present conventional relationships among line, plane, and space. The awkward loop of cloth-wrapped metal—an unexpected three-dimensional element—works against the concurrent suggestion of a framed two-dimensional artwork on the gallery wall. Made during the height of Minimalism in the United States, the work embodies a key theme of this exhibition: even as it occupies the traditional space of painting, the line moves outside the frame and away from the wall. Hesse considered *Hang Up* to be her first important work—it achieved a desired amount of “absurdity or extreme feeling,” she said. At the same time, it reaches toward the viewer, embodying a desire for connection and communication.

5. Richard Long, Walking A Line In Peru, 1972



6. Carolee Schneemann, Up to And Including Her Limits, 1973-76

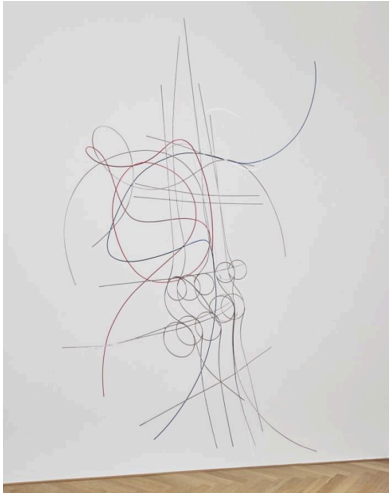
Crayon on paper, rope, harness, and 2-channel analog video, with audio, transferred to digital video. Two wall drawings, 96 x 96" (243.8 x 243.8 cm) each, and one floor drawing, 96 x 96" (243.8 x 243.8 cm), with rounded edges.



Schneemann performed this work nine times between 1971 and 1976, always intending to make it into an installation. In a comment on what she has described as the “physicalized painting process” of Jackson Pollock, she marked the walls and floor in a paper-covered enclosure with crayons as she raised and lowered herself in a tree surgeon’s harness, hovering just above the surface of the drawing; ultimately, the work records the lines her body made in space. The performances were videotaped, and that footage, along with the harness, rope, and drawings, is on display. Schneemann’s work has always focused primarily on painting, but her important forays into film and performance have allowed her to explore the links between art and everyday life.

7. Karel Malich, Energy, 1974-75

Galvanized iron wire and thread, 66 7/8 x 63 x 49 1/4" (169.9 x 160 x 125.1 cm).



Malich's wire works were conceived, he has said, as "the expression of a new space and the investigation of it." Although he has never realized any of them on an architectural scale, that aim has been part of his project: at once cosmic and utilitarian, his sculptures of the 1960s were created as designs for utopian cities in some imaginary future. He continues to think of his later tied-wire constructions as models for large-scale outdoor projects shaped by forces of light, air, and water.

8. Michelle Stuart, Nazca Lines Star Chart, Nazca Lines Southern Hemisphere Constellation Chart Correlation, 1981-82

Earth from Nazca Plateau, Peru, rubbed on paper, 10 1/4 x 14 1/2" (305.3 x 428 cm).



This is one of a series of works Stuart made using earth from Nazca, Peru. Nazca is an enigmatic archeological site where, between 500 b.c. and 500 a.d., lines depicting living creatures, stylized plants, imaginary beings, and geometric figures—hundreds of feet long—were scratched into the land. This work features similar lines in the main panel (drawn by rubbing the Peruvian earth on paper), juxtaposed with a star chart of the area and another drawing by the artist on the smaller panel. Related to the work of other Land artists working in the 1960s, Stuart's process involves direct contact with and intervention in the natural environment, juxtaposing natural and human formations. Her choice of essential substances (such as earth pigments) and an ethereal subject (the linear paths of the stars) indicate a concern for natural history and the systems governing nature.

9. Emily Kam Ngwarray, Ankerr (Emu), 1990

Synthetic polymer paint on canvas, 47 1/4 x 70 1/2" (120 x 179.1 cm).



In her late sixties, Ngwarray—a member of the Utopia group of indigenous artists working in Australia's Northern Territory—moved away from body painting and other traditional art techniques to batik and then to painting on canvas. In her work she often explored subjects from everyday life, such as animals, plants, and community lore, rendering them in complex patterns and colors. Ngwarray's technique involved making a sequence of large dots of color and then dragging through them to create lines and networks on the canvas surface, which she further embellished with smaller dots and marks. The works' weblike structures are reminiscent of the lines Australian Aboriginals etch into the desert sand and paint on the body to record their "dreaming," a kind of storytelling.

10. Sheila Makhijani, Take a leap, 2009

Gouache and thread on paper and plastic sheets, 12 1/2 x 25" (31.8 x 63.5 cm).



11. Francis Alÿs, The Green Line: SOMETIMES DOING SOMETHING POETIC
CAN BECOME POLITICAL AND SOMETIMES DOING SOMETHING
POLITICAL CAN BECOME POETIC, 2007



In the summer of 1995 Francis Alÿs performed a walk with a leaking can of blue paint in the city of São Paulo. The walk was then read as a poetic gesture of sorts. In June 2004, he re-enacted that same performance with a leaking can of green paint by tracing a line following the portion of the ‘Green Line’ that runs through the municipality of Jerusalem. 58 liters of green paint were used to trace 24 km. Shortly after, a filmed documentation of the walk was presented to a number of people whom Francis Alÿs invited to react spontaneously to the action and the circumstances within which it was performed.

12. Avis Newman, Configuration of no-thing, 2007-9

Acrylic and chalk on linen and cotton duck, paper, and metal. Six parts: 11 13/16 x 9 13/16" (30 x 25 cm); 11 13/16 x 9 13/16" (30 x 25 cm); 72 1/16 x 72 1/16" (183 x 183 cm); 39 3/8 x 55 1/8" (100 x 140 cm); 82 11/16 x 68 7/8" (210 x 175 cm); 11 13/16 x 11 13/16" (30 x 30 cm).



Newman's *Configuration of no-thing* is provisional in arrangement; it appears to be endlessly reconfigurable. The artist has described such works as neither “constructions” nor “compositions” but “configurations allowing for the work not to have an absolute fixity.”

13. Mimi Gellman, nightdrawing, 2009



Mimi Gellman's nightdrawing series combines a skeptical view of the rational mapping systems of conventional cartography with a more intuitive response to the terrain inspired by her Ojibwa heritage and based around her own drawings. "A number of my original 'Dreamwalk' drawings were input into a GPS handheld tracker as a 'map' and given GPS coordinates, which were then attributed to a specific field near my home. Over a number of blustery winter nights, I was able to enact this series of walk/drawings through the interface of my GPS tracking system that led me to move from place to place according to the map-drawing within," she has explained. These aerial photographs depict her walk in progress, her trail in the snow remapping the land.

14. Cecilia Vicuña, Kon Kon Pi, 2010



Vicuña, also recognized for her poetry, uses ritual and assemblage to create sculptures and installations from found objects and natural materials. In the 1970s, while she was living in exile from Chile in London and Bogota, her work took the form of outdoor projects and street performances that were protests against totalitarian regimes in her native country and throughout South America. In 1966 Vicuña made her first outdoor work, *Con-cón*, versions of which she has continued to perform up to the present. Named after the ancient site of Concon on the Chilean coast, the work is a drawing in sand and sea—sometimes made with a stick in sand, sometimes in lines of red wool—that is eventually washed away by the forces of nature, symbolizing the processes of birth, death, and transformation. Recent performances of the work are recorded in videos denouncing ecological disasters along Chile's Pacific coast and its exploitation by international fishing corporations and oil refineries.

15. Janaina Mello Landini, Ciclotrama 27 (bleu), 2015

30m of blue nylon rope 32mm diameter and 2.484 nails, 500cm x 250cm x 320cm



16. Monika Grzymala, Drawing In Space, 2017

Black masking tapes

