



THE INTENTIONAL
THREAD

A Guide to Drawing, Gesture, and Color in Stitch



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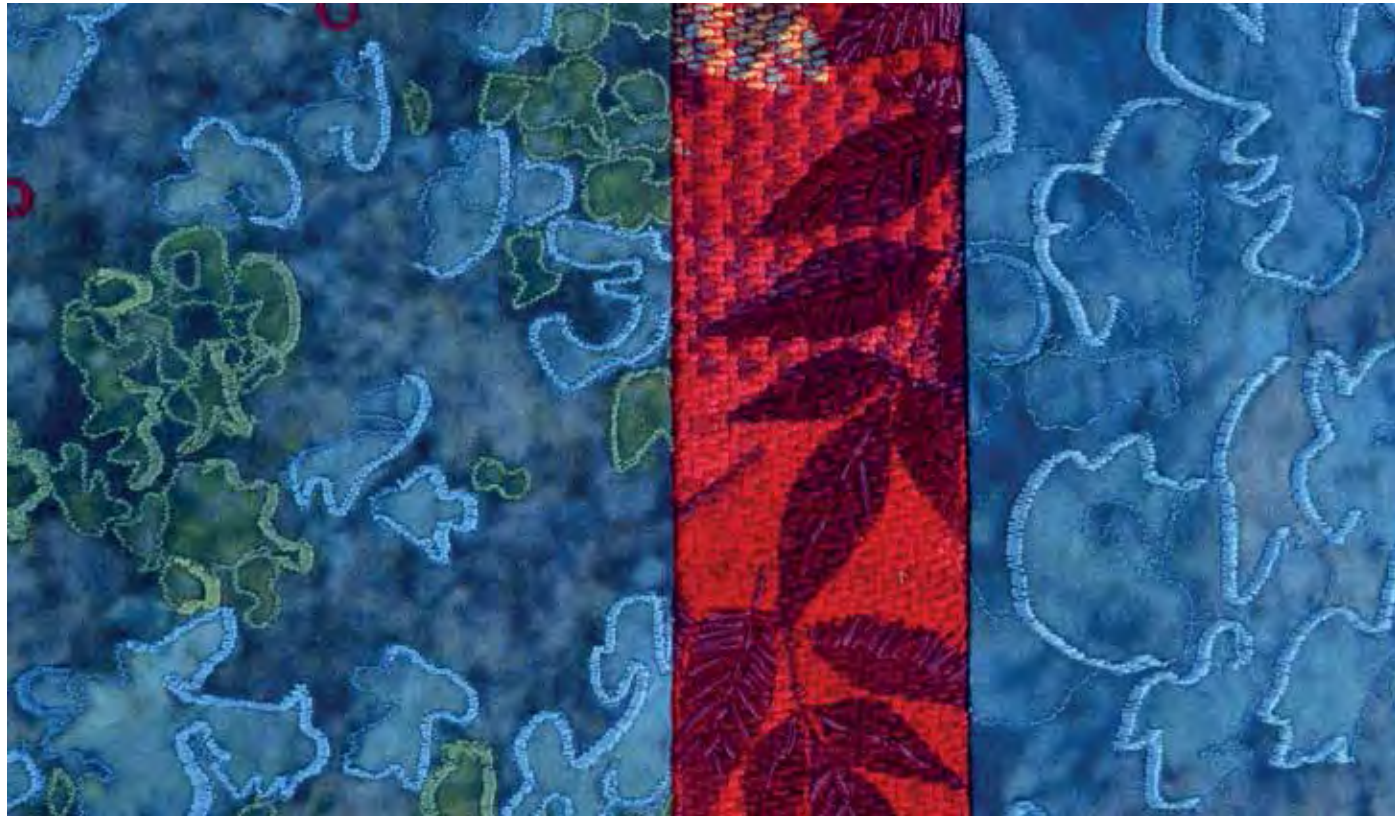
The Elements of Line

QUITE SIMPLY, *line* refers to any mark that is longer than it is wide—and perhaps that is the only constant characteristic of lines. You may have heard line described as *a point in motion*. You can demonstrate this for yourself. Place the point of a pencil on paper and move it around, continually touching the paper. You will create a line as the *point* of that pencil *moves*. Similarly, if you propel a threaded needle upward from the back of a cloth and down again in another spot, you will create a line. In each case, the motion of your hand holding a tool leaves behind a trail of color.

Lines are the basic tools of drawing, whether made with traditional tools on paper or with a needle and thread on cloth. In practice, they can be fat or thin, sleek or fuzzy, curved or straight, swooping or kinked, but they will always direct your eyes along their length as they *describe* the edges and contours of shapes and add their own color and texture to the surface. When you make lines, some of them will eventually touch or cross, and create *shapes* that are clearly defined against the background.

When you draw with a pencil, the lines record the journey of your hand as your pencil touches the paper—sometimes lightly, sometimes heavily, but rarely with completely equal pressure. Because each person makes lines differently, your lines will immediately express *you*. This is both natural and inevitable.

The chapters in Part 1 explore ways for you to translate the individuality of your marks on paper to the stitched lines you make with needle and thread.



Line weight—a line’s length-to-width ratio—is the most basic quality that defines the character of the marks you make on any surface. When describing a line’s width or thickness, we use words like *fat* or *thin*, *heavy* or *light*, *chunky* or *delicate*, *solid* or *irregular*, *tapering* or *widening*. Each one describes a different kind of energy and expression. With attention and sensitivity to line width, you control a range of subtle to dynamic drawing effects.

In drawing on paper, line weight is largely controlled by the choice of tool used, the angle at which it contacts the surface, and the amount of pressure applied. For instance, when you press and move a pencil on a surface, you leave a trail of its color behind. If you use the point of the pencil, you will make a thin line; conversely, if you angle the pencil to use the side of the lead, you produce a wider and more transparent line. That trace of your hand movement also records

the amount of *pressure* you have exerted. When you increase the pressure, you make darker, fatter marks that are stronger, more visually forceful, and seem to come forward in space. When you decrease the pressure, you make lighter, thinner marks that quietly recede into the background.

Beyond the visible evidence of hand pressure, the trail left by the action of drawing is also a conduit for your internal emotional state, which contributes to the *unique* qualities of your drawing. For instance, if you are angry you might intentionally, or unconsciously, grip a drawing implement harder, press more firmly, and make more forceful marks. Similarly, if you are nervous, it is likely that your drawn line will express that nervousness by being more erratic in its path, wavering from dark to light in its pressure, and ceaselessly moving around the surface. The trace—that drawn line—captures it all.

ABOVE 01-01 Machine and hand stitching with cotton threads on digitally printed, hand-dyed, discharge-printed, and screen-printed layered cotton twill and silk organza fabric and handwoven cotton accent strip. *Photo credit: Marc Brandeis.*

A sketchbook page (01-02) of rows of drawings of the same series of figures demonstrates how different pencil lead types, from hard to soft, change the weight of the lines. Softer lead tends to force us to make the marks larger and darker, while harder lead leaves slender, tentative, scratchy lines. Each pencil’s mark is just slightly different, offering a range of effects and feelings.

Stitching Thin and Fat Lines

Stitching affords a very wide range of options in line weight developed from the interaction of many variables: stitch types and sizes; thread sizes, colors, and textures; value gradations; and combinations and variations of these. While not as direct, immediate, and fluid an action as drawing on paper, the three-dimensional aspects of drawing with thread on cloth compensate by offering a physical dynamism and dimension, close interaction with materials as the thread repeatedly penetrates the plane of the cloth, and textural variety far beyond that of a pencil or pen, while still capturing the spontaneity of your hand.



01-02 Pencil drawings on paper using varying line weights and pencil types.

FINDING ARTISTIC INSPIRATION

Artists around the world from previous centuries have left a rich legacy of drawing and mark-making. Art movements of the twentieth century raised our awareness of the link between the character of marks and the emotional state of the artist making them.

Photographic reproductions in art history books and on the Internet, and real objects in art museums the world over, provide ample opportunities for you to examine masterful drawings and the nuances of line work they contain. Focus your study closely and specifically on the qualities of the lines and marks.

Your best inspirations will often come from exposure to objects and events outside your own area of interest and expertise. Be open to examining work from a variety of different media and in many materials—drawings, paintings, prints, handmade books, ceramics, metalwork, calligraphy, and embroidery—from both Eastern and Western traditions. This broad exposure will expand your knowledge, educate your eye, bolster your confidence, and inspire your own drawing. (See the Bibliography at the end of the book for some art history resources.)

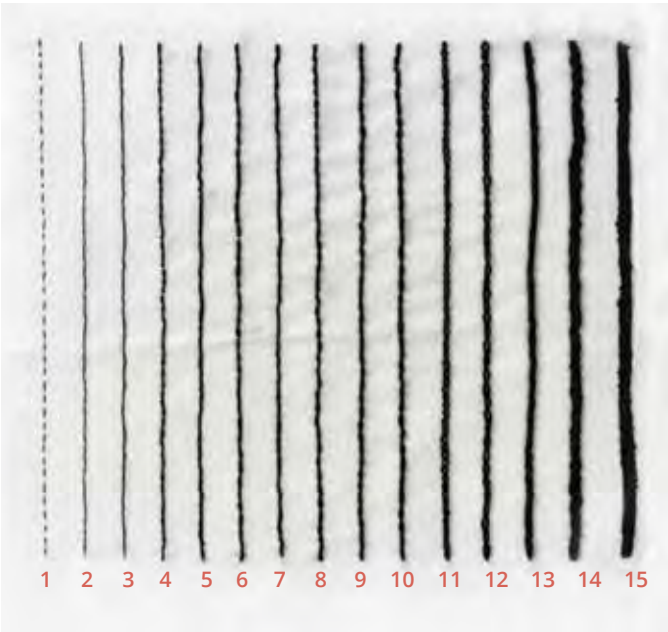
Stitching a sequence of *straight lines* offers a simple starting point to explore line weight. Keep the thread color constant to eliminate the interference of color variables in the study and to focus your emphasis on the gradation of line weights from light to heavy across the surface. In the two studies that follow, each line in the sequence is of equal thickness *from end to end*—that is, the lines do not taper or vary in thickness from top to bottom. But, moving across the surface, each line is a little bit heavier or thicker than its predecessor.

Practicing these gradations, with both hand stitches and machine stitches, will raise your sensitivity to the differences and will help to refine your skills in applying specific line weights when you need them. Each change of thread type requires you to make fresh explorations to understand the limitations and discover the possibilities of the new material.

Sampler of Line Weights: Hand-Stitched

A single thread has limits of thinness and thickness. Thus, combinations of threads and stitches yield far greater dimensional possibilities. The wider the line, the thicker the thread or group of threads needed. The precise weight of the lines you stitch will depend on your own way of making the stitches and using the threads. Except when using large-scale threads or yarns, wide lines require many more combined small stitches to build, and are therefore slower to produce. Even slight changes in line width can produce dramatically different lines in terms of their visibility, force, and presence.

01-03 Hand-stitched sampler of increasing line weights. The wavering in the lines reveals the touch of the hand. Black cotton threads and rayon tape on cotton.



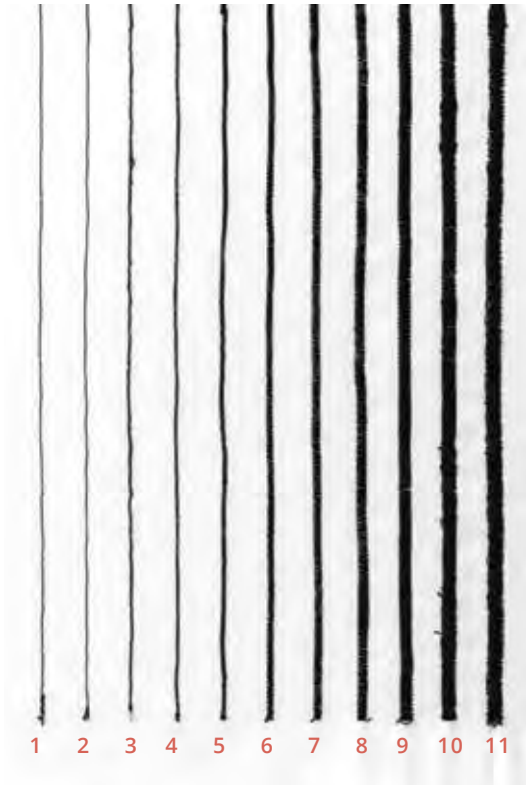
LINE WEIGHTS: HAND-STITCHED

No.	Stitches	Threads or materials used
1	Running	1 strand cotton sewing
2	Back	1 strand cotton sewing
3	Double running	2 strands cotton sewing
4	Back	2 strands cotton floss
5	Double running	3 strands cotton floss
6	Back	3 strands cotton floss
7	Double running	4 strands cotton floss
8	Back	4 strands cotton floss
9	Back	5 strands cotton floss
10	Back	6 strands cotton floss
11	Chain	2 strands cotton floss
12	Chain	3 strands cotton floss
13	Couching	1 strand low twist cotton moss yarn. Couched or tacked down with 1 strand cotton floss. 2 layers of tacking in overlapping diagonals, stitched from 2 directions.
14	Couching	2 strands low twist cotton moss yarn. Couched or tacked down with 1 strand cotton floss in long, close diagonals.
15	Couching, cross	2 lengths of braided rayon tape couched with 1 strand floss in cross stitches over the tape.

Sampler of Line Weights: Machine-Stitched

A variety of line weights can be created with straight and zigzag machine stitching. Heavier line weights rely on the combination of very short stitch *lengths* with increasingly wider zigzag stitch *widths*—which produces satin stitch (parallel stitches dense enough to cover the cloth). In turn, these wider lines require more stability in the ground material—addressed by strengthening the fabric with a backing or cotton batting, or by stretching it tightly in a hoop during stitching. The maximum width setting on your sewing machine limits the width of the stitched line. To create a solid line that is wider than your machine’s limit, overlap multiple parallel lines of satin stitch to maximize stitch density and completely cover the ground cloth.

01-04 Machine-stitched sampler of increasing line weights. Even when using the sewing machine, the hand is visible in the making because of slight variations and irregularities in the lines. Cotton sewing thread on cotton.



LINE WEIGHTS: MACHINE-STITCHED

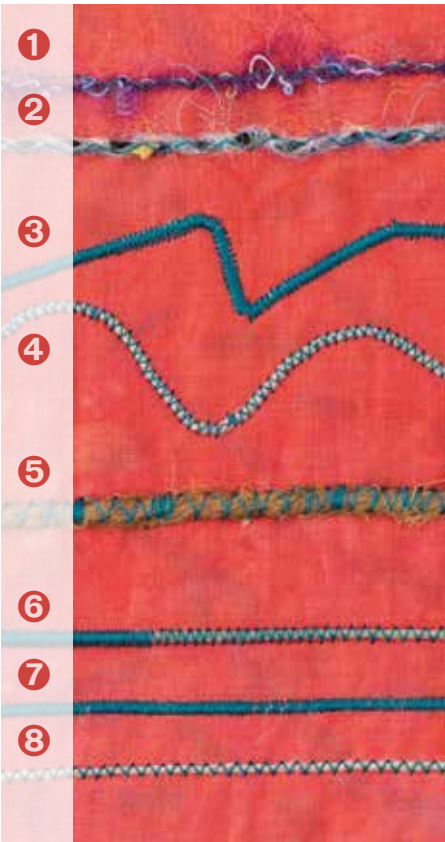
Changing stitch widths using closely spaced zigzag stitching, also called satin stitch (Stitch width and length settings on the Bernina 930 sewing machine)

No.	Stitch type	Stitch length	Stitch width	Notes:
1	Straight	3 (long)	n/a	
2	Straight	1 (short)	n/a	
3	Straight	1 (short)	n/a	2 strands of thread through the single needle
4	Satin	0.5	0.5	First mark on the dial, narrowest stitch width
5	Satin	0.5	1	
6	Satin	0.5	1.5	
7	Satin	0.5	2	
8	Satin	0.5	2.5	
9	Satin	0.5	3	Needed a second narrow layer to make a clean line
10	Satin	0.5	3.5	Needed 2 complete layers to make solid line
11	Satin	0.5	4	Needed multiple layers to cover breaks in solid line

Heavier Weight Lines

Heavier lines are most easily made by couching down large yarns, cords, or threads—materials too large to be pulled *through* the cloth with a needle—to the *surface* of the cloth. Yarns of almost any weight or fiber content can be couched with hand or machine stitches. This method offers chances to include threads and other materials not usually considered for stitching, such as those typically used in knitting, weaving, or crochet, but also including non-traditional materials like fishing line, wire, plastic cords or tubing, raffia, hemp, twisted paper, spaghetti (dry, not cooked!), reeds, grasses, and many others. Think creatively.

This sampler illustrates a few of the possible choices of materials and densities of machine stitching, couched with a zigzag stitch in varying widths and lengths that change the amount of the laid cord or yarn remaining visible. When the couching completely covers the cord, it resembles hand overcasting. A couched line can travel in any direction—straight, bent, or curved—with each type of cord limiting the angles and flexibility of the curvatures and resulting line qualities.



01-05 Variety of heavier weight lines in machine couching.

Machine satin stitch worked over a stiff and stable heavy linen cord creates a very solid line that sits above the surface prominently, firmly, and quite three-dimensionally. Lines can be worked straight or curved, but usually appear even and solid while taking on the texture of the thread chosen for the overcasting. Because they are so stiff from the overcasting, such cords will be naturally rounded in both shape and line, and will resist bending around sharp corners or angles.



01-06 Bold, dimensional, and solid lines. Overcasting of heavy linen cord on handmade felt. Machine stitching: satin.

ROW 1	Highly textured bouclé yarn; openly spaced zigzag. Irregular and flexible.
ROW 2	Multicolored twisted wool yarn; openly spaced zigzag. Stitching aligns with the changes of color in the yarn, adding another line weight to the mix.
ROW 3	Heavy linen cord; tightly spaced satin stitch (overcasting). Highly dimensional, firm, and slightly inflexible solid line.
ROW 4	Heavy linen cord; openly spaced zigzag. Color of machine stitching mixes with the color of the cord. Dimensional and more flexible than overcasting the same cord.
ROW 5	Heavy jute cord; openly spaced zigzag. Color of machine stitching mixes with the color of the cord. Rough, chunky, irregular, flexible.
ROW 6	Medium weight linen cord; half overcast (tight satin stitch), half open zigzag. Presents possibilities for changing the style of couching and the coloration along the length of a line.
ROW 7	Medium weight linen cord; tightly spaced satin stitch (overcasting). Solid and firm.
ROW 8	Medium weight linen cord; openly spaced zigzag. Blended color and firm.

Lines That Change Weight along Their Length

Quick pencil gestures illustrate differences in pressure along a line’s length. The gestures begin at the bottom with force. (Notice the slight skip to the side from the force of the pencil meeting the paper.) They remain dark along nearly the entire length of each line, and then, as the pressure lifts at the top, the line becomes lighter and narrower before trailing off to a slender point. Generally, darkness and wideness of line or gesture conveys more pressure—force, energy, intensity—while lightness and narrowness conveys less pressure—quiet, calm, and delicacy. The specific way your lines change or taper communicates the individuality of your gestures.



01-07 Lines which change in weight or taper. Pencil gestures on paper.

Translating this type of change from drawn hand pressure to stitching requires developing “composite lines”—accumulations of smaller stitches working in combination. The illustrations in this book provide many examples of ways to do this, but you will want to develop a range of your own methods that satisfy your drawing needs. Essentially, the translation from pencil to stitch requires you to manipulate some mixture of stitch types, sizes, variations, colors, and textures.

Tapered Lines: Machine-Stitched

Machine-stitched lines that change in width along their length quickly and easily approximate the character of pencil marks on paper. Where they are darker and wider, they indicate the force of pressure at the beginning of a mark; where they are lighter and thinner, they indicate the release of pressure. Free-motion machine stitching requires some practice to master, but delivers very effective and sophisticated tapered lines. Fortunately, any inaccuracies that occur in the stitching process parallel the idiosyncrasies of drawing with a pencil on paper. They reveal the individual behind the sewing machine and allow direct translation of your natural hand gestures.

MACHINE CONTROLS FOR SATIN STITCH

The key to producing satin stitch lines that widen or narrow smoothly, without jumpy or jagged edges, lies almost entirely in the controls of your sewing machine (bolstered and refined by your technical practice). The smoothest lines can be made on a machine with a stitch width setting that is on a *dial that moves freely*—not one that locks a series of stitch widths into place. Without the freely moving dial, the smooth transition from one width to the next *during stitching* is not possible. The speed with which you move the hoop determines the stitch length. The width is achieved by adjusting the stitch width dial during sewing *and while moving the hoop* to control the stitch length (the distance from one stitch to the next). The machine-stitched illustrations in this book were made on a Bernina 930 sewing machine with a movable dial.

Tapering a line in machine stitching can create graceful and fluid gestures. The slender and slightly bent marks in 01-09 widen in the center and taper at *both* ends. When stitched on top of a printed image of long grasses in varying colors, they echo the grass shapes and increase the illusion of depth. Tapered marks are effective at highlighting or emphasizing details of a composition of plants, adding visual dynamism and sparkle to the surface.



01-08 Tapering marks in free-motion machine stitching. Stitches: straight, zigzag. Cotton sewing thread on linen.



01-09 Lines which taper at both ends. Changes in color add variety and dimensionality. Machine stitching: satin. Cotton thread on hand-dyed and screen-printed parachute silk.

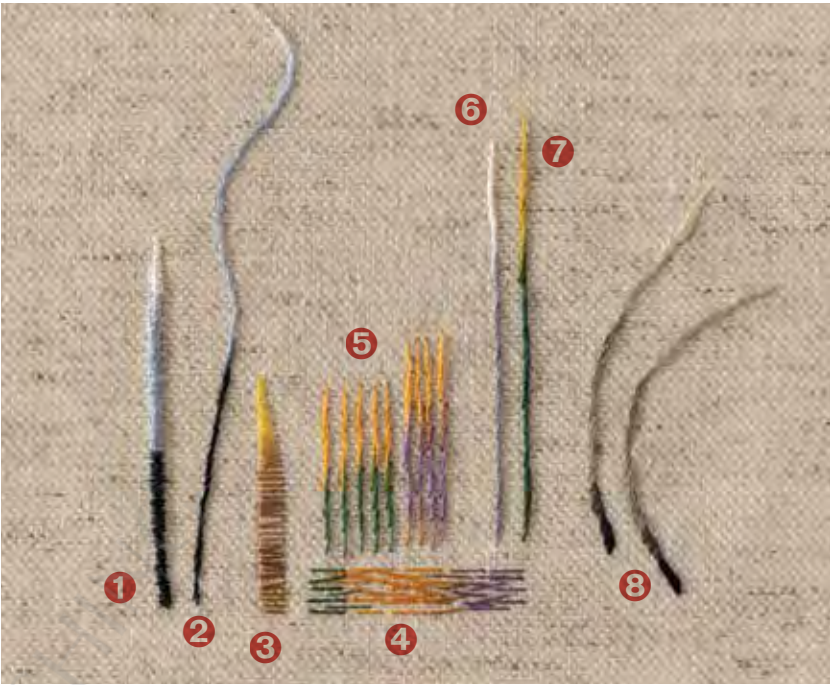
Tapered Lines: Hand-Stitched

Many hand stitches—satin, stem, straight, whip, and back stitches—work well in creating both straight and curved lines that change in weight along their length and that mimic differing pencil pressures. Gradation of color values—changing from light to dark—along a tapered line enhances the tapering effect. As the value of the color approaches the value of the supporting fabric, it will seem to disappear. In other words, stitch with high value contrast at the “fat end” of the line and with low value contrast at the thinner, tapered end.

Using variegated thread potentially introduces both color and value changes faster than re-threading the needle each time, but the process requires careful monitoring of the color changes in the thread for their effective placement along the line. Although slower, choosing a sequence of colors and then re-threading the needle for each change affords more precise value control.



01-10 Machine stitching (satin) on digitally printed and layered cotton sheeting and silk organza. (Collection: Duke University Medical Center, Durham, North Carolina, USA.) Photo credit: Marc Brandeis.



01-11 Tapering marks. Value changes along the length of the lines emphasize the tapering. Hand stitching. Valdani 35 wt. variegated cotton thread and cotton floss on linen.

No.	Stitch	Thread	Notes
1	Satin	Valdani variegated 35 wt., 1 strand	Dark part of thread aligned with bottom of stitch and worked upwards, ending with light value blending with the ground fabric at the tip.
2	Stem	Valdani variegated 35 wt., 1 strand	Stem stitch with the color arranged as in no. 1 Stitch provides a longer line within the changes in the thread's variegation.
3	Straight	Valdani variegated 35 wt., 1 strand	Placed darkest color (medium value) at the base and worked up in separated stitches, narrowing gradually toward the top.
4	Long and short	Valdani variegated 35 wt., 1 strand	Horizontal stitches worked in bands from top to bottom, from left, moving right, like hatching.
5	Stem	Valdani variegated 35 wt., 1 strand	First 5 lines worked simultaneously from bottom to top (1 stitch in each line, then the second, the third, etc.) until third, etc.) until color changed to another dark (purple), then started the second set of 4 lines,worked worked in the same manner.
6	Stem	Valdani variegated 35 wt., 1 strand	Variegation consisting only of gray and white, and color change therefore more abrupt.
7	Stem	Valdani variegated 35 wt., 1 strand	In this thread, the change from light to dark value is more gradual, but the change from green to yellow is very abrupt and noticeable.
8	Stem	DMC cotton floss—black, 5 warm grays, and natural (2 strands)	Lines marked on fabric and worked from base to tip, changing colors every 3 to 12 stitches, setting the stem stitch very close and making it rather small.

VALDANI THREADS

Many of the illustrations in this book were stitched with the Valdani brand of 35 weight variegated cotton sewing thread, a high-quality thread which is similar in weight to a single strand of cotton floss or to the weight of quilting thread. It is equally effective in the sewing machine (reduce the top tension and try using a top stitch needle) and in hand stitching, and its tighter twist makes it sit up more dimensionally on the surface of the fabric. By comparison, the lower twist of cotton floss makes it settle down more into the fabric surface.

I frequently use Valdani for its sensitive and sophisticated range of colors in its solid threads and the rich and unusual color combinations in its variegated threads. The company also offers cotton and silk embroidery flosses, pearl cottons, and wools. These are available directly from the manufacturer at: <https://www.valdani.com>. As an alternative to this product, look for a machine thread with similar characteristics, i.e., cotton, high-twist, heavier weight, and a broad spectrum of available color intensities and variations to allow subtle color changes.

Expanding and Contracting Line Weights

Drawing employs many complex variations in line weight. The following studies explore thicknesses that continually expand and contract, back and forth, along the line's length while the lines move in different paths across the cloth. Compare the differences achieved by hand and machine stitches.

01-12 Irregular width and length contribute to a hand-drawn look. Free-motion machine stitching on a base of resist-dyed silk organza laid over hand-dyed silk noil, both then stitched through. Stitch: satin. Cotton thread.



Irregular zigzag (01-12): The dark gold spiral was worked spontaneously and erratically, allowing the spaces between the stitches to vary irregularly. Contrasting thread and ground colors clearly delineate the spiral while irregularity in stitching suggests hand-drawn lines and gesture.

Loosely sketched look (01-13): Irregularly spaced hand stitching allows the fabric color to interact with the stitches for relative transparency or opacity. Stitch width changes alternate between smooth and jerky motions, while variegated thread adds an extra layer of visual change.

Pulsating line (01-14): Continually widening and narrowing line weights make a noticeably pulsating line. With machine satin stitch, the line formed is very solid and firm. The openly spaced hand-stitched line leaves a more delicate and tentative effect, but with similar pulsations.

Smooth and flat (01-15): Regular, short stitch *length* creates a smooth, flat, dense, and controlled satin stitch, while very slight variations in stitch *width* produce a slight visual waver. The dense stitching requires more stabilization to keep the fabric flat. Lower contrast blue threads blend into the ground fabric while the high contrast navy thread at the edge moves forward visually. Combined with the concentric arrangement of the lines, this creates the sense of looking down into a shallow hole.

Machine satin stitching can make a heavy, emphatic line or a slender, piercing edge. In 01-16, complementary contrasts of color, coupled with wavering line weights, define the edges of shapes with great clarity and clearly separate them from the background. The physical presence of the line is enhanced by being stitched on a “quilt sandwich,” i.e., the stitching provides depth where it pinches the layers together and the cotton batting provides a contrast of loft on either side of the stitching.



01-13 Irregular spacing produces a more sketch-like and spontaneous line quality. Free-motion machine stitching (satin) on a base of resist-dyed silk organza laid over hand-dyed silk noil, both then stitched through and further enhanced with hand stitching (straight, running). Cotton thread.



01-14 Upper two rows: closely spaced machine stitching (satin), varying stitch widths. Bottom row: hand stitching (satin and back), openly spaced. Base of resist-dyed silk organza laid over hand-dyed silk noil, both then stitched through using cotton thread.



01-15 Flatter, more regular lines can be achieved with closer control of machine satin stitch. Free-motion machine stitching on a base of resist-dyed silk organza laid over hand-dyed silk noil, both then stitched through. Stitch: satin. Cotton thread.



01-16 Changing stitch width, very short stitch length. Complementary color contrast heightens the edge effect. Free-motion machine stitch: satin. Cotton sewing thread on stamp-printed and hand-painted cotton fabric. stem, couching, satin. Scale: 2" x 2".



01-17 Hand-stitched interpretation of Rembrandt drawing detail in cotton threads on cotton cloth. Stitches: running, back, stem, couching, satin. Scale: 2" x 2".

This stitched translation (01-17) of a small section of a drawing (from a sketchbook of the Dutch master Rembrandt Harmenszoon van Rijn) provides a more complex and dramatic demonstration of the power of changing line weights. The original drawing is masterful and highly communicative, offering a wonderfully inspiring example of contrasting line weights to practice. Its interpretation was a lesson in thoughtful choice of threads in varying sizes and the placement, extension, and continuation of lines with changing stitch types. These combine to approximate the sense of space and living presence in the original drawing.

Try this!

1.1 / Sketching Varied Line Weights

Make six to eight simple pencil or charcoal sketches with a variety of line weights. (For examples, see 01-02 and 01-07.) Choose a section from one of the drawings to interpret in stitching, capturing as accurately as possible the various nuances and contrasts of line weight in the sketches.

1.2 / Line Weight in Context

Select a master artist's ink or pencil drawing which contains a variety of line weights. Scan or photocopy a small section or detail to interpret. Paying close attention to contrasts of line weight, select stitches to translate this section using a single color of thread. Use hand stitching, machine stitching, or a combination of the two.

Follow-up: If you like to draw, do the same with one of your own original drawings containing a variety of line weights.