

Source Code



Back and forth they move, pale spiders upon the loom. The rhythm of her hands is steady; a steadiness practiced for thousands of hours. Her mother's hands had moved so. Her grandmother's hands had moved so. Since their fingers could articulate. Weaving things into existence. Blankets, shrouds, wedding cloths, swaddling bands; the private architecture of human life. A certain pattern might confuse the wandering eye of misfortune.

The Weaver's sister is expecting and the Weaver is excited to make a blanket for the Unborn. Her sister, growing the first child of this generation. She, Anna, is the elder of the two, so she should have been first. But the excitement and glowing joy in her sister's face is enough to overshadow any resentment the Weaver might have hidden away in her heart. And anyway, a child of her own would mean a shift. Less time to create, less time to work the loom - maybe she'd need an assistant, one of the girls from the village. Her husband wouldn't like a stranger in the shop. Maybe she wouldn't either, she takes pride in her creations. She should get to it. But before you can devote yourself to the rhythm of the loom, you have to craft the pattern. The draft lies before her on the table, ruled into four sections: threading, tie-up, treadling and drawdown. Along the top, she plots the warp - the long, tense threads that will form the bones of the cloth. She begins at the lower edge of the draft.

One, two, three, four.

The marks rise diagonally through the shafts. Then they descend.

Three, two, one.

A pointed progression: the beginning of a bird's eye, small and watchful. She repeats it across the page, counting under her breath. Every mark will eventually become a physical thread stretched from the back beam to the cloth. She has done this many times and she knows she is good at it, although nobody has ever told her so directly. Sometimes though, customers come to her husband's shop and talk about the pieces. "How artful"- said, by one of the travelling Englishmen about her largest work, a wall hanging depicting local flora and fauna, telling the stories of magic in the woods. She would have liked, then and there, to tell him it was she who made it, to let him in on the secrets and stories of her weaving.

Next comes the tie-up - the small square in the corner where the shafts are bound to the treadles beneath the loom.

One, two, three, four.

Three, two, one.

There is a lot you can learn from people's comments and Anna liked to tend the shop and listened where she could. People called weaving a craft when they wished to praise patience, and an art when they wished to praise beauty. They called it women's work when they did not wish to praise it at all.

Threading tells her where every warp thread belongs. The tie-up tells the loom which shafts obey each treadle. The treadling tells her feet when to move. Only in the largest part of the draft - the drawdown - do all three instructions meet. There she colours the squares one row at a time. A less experienced weaver might be able to follow a pattern but creating it takes not only the technical understanding, but a knowledge of colour and balance, of harmony. This is where she has always been better than her sister, who had the vision but never the patience, who used to look up to her. Now of course, a different hierarchy has emerged and it is one in which she falls behind.

For the first pick, shafts one and two rise. Every warp thread assigned to those shafts appears on the surface of the cloth, so she marks each corresponding square. Row after row, the scattered instructions resolve into an image. A dark diamond emerges. Then another one within it. Small white eyes appear between black points. The motif repeats, mirrors itself, closes. The Weaver sharpens her pencil and checks the repeat again. Twenty-eight warp ends across. Fourteen picks before the design mirrors.

"Anna, child, be mindful."

Her grandmother had once told her, while knitting beside the stove, "You always work some part of yourself into what you make." The old woman's needles had clicked in the firelight like the teeth of a small animal. They moved with sharpness and Anna remembers hoping to inherit this unyielding spryness. "And that is why, you must leave one mistake. A little door through which the soul may crawl back out."

Through, loop, through, loop... and the soul is trapped. *Klick, klack* of needles. It works the same with weaving, she knows now: *Up, down, up, down*. She thinks of her sister's swelling belly and then starts again to move her fingers, pushing the shuttle back and forth.

When the blanket is finished, she carries it to her sister's house. She has done it well and, selfishly, before handing it over, she hopes it will be remembered as her work. She knows the tapestries in the shop will not carry her name into the future, but this blanket might be given from daughter to daughter to daughter and they might share its story with it, as women often do. The little girl has arrived early and seems impossibly small, her eyelids blue-veined and translucent, her hands opening and closing around nothing. Her sister lays the baby in the centre of the cloth. For a moment, the eyes of the pattern surround the child on every side. Anna gives her a soft kiss on her small head. Nothing more to hope and wish than this: *God, let her soul go where it pleases, don't let her get too entangled in the perfect fabric of her own life*. Something else there, lingering as well. This feeling, burning in her lately. She can't quite express it; if she starts pulling at this thread she is afraid of what it might unravel. *May you remember*. The Weaver straightens up, places a kiss, too, on the forehead of her tired sister and leaves for her loom.

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Years and years later, the Programmer sits at her desk. The room is dark except for the light of the screen. Her hands move steadily over the keyboard, a practiced motion that has become unconscious. It's a personal project, which is why she submits to the cliché of working after reasonable people have long gone to bed. But Anna doesn't really mind, she is focused and having fun,

One, two, three, four. Then back to the beginning.

The same sequence performed upon different values, row after row. Every line will be translated into smaller instructions, and those instructions into smaller ones still, until all that remains are electrical states: *on and off, high and low, one and zero*. She doesn't know that before this machine she is working on now, there had been another one. That the motions she performs are reminiscent of something else. The Programmer divides the remaining work into threads. Each thread follows its own sequence of instructions, moving alongside the others through the machine.

She runs the program. An error appears. A small yawn escapes her and she pulls the blanket on her knees closer to herself. Its colours have faded, the dark diamonds of its pattern barely visible. One corner has worn almost transparent from generations of sleeping fingers worrying at it in the dark. She will make this work today, she knows she can. The project began with a research paper and several hundred lines of code she found in a neglected repository. The researchers had trained a program to recognize weaving structures from photographs. Anna had begun by rebuilding the method, partly to understand it and partly because their code no longer ran on any version of the software she had installed. After that, the project widened in the way personal projects do, absorbing evenings and weekends. Channeling her curiosity and

focus in a way that neither her friends nor professors understood, since after all, there were actual exams to study for.

Now, many excuses for skipped board game evenings later, the program manages to correct the angle of a photograph, estimates the direction of the warp and can trace the centre of each visible thread. Anna does miss socialising, at times. But it's more that she likes the idea of a nice evening with friends, not the actual thing. Not the anxiety that comes with it, the being out of place. Devoting herself to a personal project gives her the excuse of productivity. More importantly though: the program now allows her to reconstruct a loom pattern from pictures of existing cloth, making ancient weaving patterns reproducible. She wants to make the final result open source, available to anyone to keep building on it. A living, breathing thing.

She is now testing it with a picture of the blanket on her lap. She doesn't know much about it, only that it's an heirloom, generations old. It has always quieted her nerves and she remembers, as a child, tracing the diamond pattern in endless loops to fall asleep. But it is giving her a headache in the reconstruction. The pattern the computer predicts does not match the actual pattern on the blanket and she doesn't understand where the mistake lies. She has dug through the code countless times, trying to find the error. She runs the image recognition again, a few regions refuse. The worn corner is expected, its confidence map is almost entirely grey. Another patch, nearer the centre, is different. The computer is confident about what it sees there, but it makes no sense. According to the program, three full rows have been woven incorrectly.

Anna pulls the blanket closer and finds the place with her fingers. At first she sees only the faded pattern. Then she notices that several threads are slightly thicker, their colour almost but not quite the same as the yarn around them. A repair. Someone had filled a damaged section by following what remained around the hole. One crossing changed the next, and the next. By the time the new threads met the older cloth, the eye had shifted sideways and the pattern had become a slightly different one. On her screen, Anna marks the section as repaired and the pattern becomes cleaner, but another disagreement remains farther down. This repair is newer. The yarn is smoother, less faded. And it does not follow the older cloth around it, instead it follows the first repair.

A repair of a repair.

She searches the rest of the blanket and finds a third version near the border. There, the eye has returned to the centre, but the diamond closes one row too late. Until now, the program has treated the differences as damage obscuring a single original design. But when Anna divides the blanket into sections, each produces its own pattern. Even the oldest surviving part contains two different borders, there is no clean place where the original ends and the repairs begin. Absent-mindedly she strokes the blanket, caresses the intersections, where to repair something perfectly would have meant to repair it invisibly. As if she was a tired three-year-old again, her eyes unconsciously follow the winding threads around the blanket. The pattern still draws her in, but this time, instead of soothing her, a heavier feeling settles in her chest. How come she never noticed these small deviations? Anna's aunt once told her that handmade things should contain a mistake. Otherwise, some part of the maker might become trapped inside them. She thought it was ridiculous and illogical but now, tracing the lines and workings of dozens of fingers, she understands something essential about it.

Another yawn, turning Anna's eyes watery. Hesitantly, she lowers the blanket. Maybe that's enough progress for today. The code seems to be working better than expected. She understands now that a few adjustments to the approach are needed, to the instructions of how the program should be used. But for now it's fine, maybe even good. The little arrow of her mouse hovers over the x of the window. Alone in the dark, she thinks of the threads running through her machine; loops repeating without end, processes caught waiting for one another, of structures so complete that nothing living could escape them. Before shutting down the program for the night, she leans back slightly into her chair and opens the source code, adding four little letters: A-N-N-A.