

## Knitting and Intellectual Development

### The Role of Handwork in the Waldorf Curriculum

By Eugene Schwartz

Knitting has recently become remarkably popular among college students and celebrities -- but it has been a pillar of the Waldorf school curriculum for ninety years. We examine the many ways in which knitting and other handwork activities stimulate intellectual development and instill a sense of achievement in the child.



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Out of natural insight, many ancient peoples connected weaving, braiding, and knot-tying with the development of the intellect and wisdom. Isis, the female deity of Egypt who exemplified wisdom, disguised her identity to wander on the earth until she was discovered as she taught a princess to braid her hair. Athene, who was born out of the head of Zeus and ruled over the world of thoughts, was also the patron of weaving. The preponderance of braid-like and woven strands in temple paintings and ritual sites in New Mexico, northern and southern Africa, Peru and central Asia suggest a link between the activities of weaving and braiding and humanity's aspirations to an independent life of thinking.

In the Middle Ages, a third craft arose to take its place alongside weaving and braiding. Although the origins of knitting are obscure, old woodcuts and medieval illuminations place its ascendance in Europe at about the same time that the game of chess and the mathematical approach of algebra became known to Westerners. Indeed, among the earliest knitted textiles discovered in Europe are two Islamic-inspired knitted cushions, whose patterns one of whose patterns suggests castles on a chessboard.<sup>1</sup> It is significant that the most intellectual of games and the most cognitive approach to numerical problems accompanied the development of knitting. It was as though a new degree of adeptness in the hand had to go side by side with newly-discovered capacities in the head.

Recent neurological research tends to confirm that mobility and dexterity in the fine motor muscles, especially in the hand, may stimulate cellular development in the brain, and so strengthen the physical foundation of thinking. The work done over the past seventy-five years in hundreds of Waldorf schools worldwide, in which first graders learn to knit before they learn to write or manipulate numbers, has also proven successful in this regard. The learning disabilities specialist Jean A. Ayres states that "Praxis, or the ability to program a motor act, shows a close relation to reading skills, even though reading would appear to be only distantly related to goal-directed movement of the body." Citing the research of Strauss and Werner, she notes that "Children with finger agnosia [awkwardness and lack of control] made more errors on a test of arithmetical ability than did children without finger agnosia."<sup>2</sup>

Waldorf schools were, of course, not the first schools to bring knitting to children, but they were unique in the way in which knitting was linked to children's developmental stages, and integrated with the rest of the curriculum. The heyday of knitting in schools had actually occurred somewhat before the first Waldorf school was founded, when soldiers suffering in the harsh trenches of World War I needed scarves and gloves and clothing that was warm and protective. Anne McDonald shares the first person experiences of an anxious English schoolgirl:

*Knitting's the best thing to steady your nerves. The boys in our room that used to sit and fumble their ink-wells, or tap their pencils, or tinker with their rulers, or maybe flip bits of art-gum at you when somebody was reciting, are so busy with their knitting that they never fidget or behave. And the girls — my, how their knitting counts up! Pauline and Esther each knit a sweater a week and keep up with their lessons as well as ever while Guy's the champion boy-knitter of the school. He has finished three sweater and four pairs of wristlets, and is knitting a helmet now. Helmets are hard, too, but we've got half a dozen boys well started on them.<sup>3</sup>*

For the often overstimulated, nervous or hyperactive children at the century's end, the rhythmical activity of knitting can provide a way for them to be soothed, aware of and engaged with their social peers and productive at the same time. Although American Waldorf students are not called upon to support military efforts with their handwork, they, too, can engage their will in supporting something grand in scale. A representative project of this nature was the "Pac-Coat," a garment assembled by eighth graders in the Green Meadow Waldorf School under the enthusiastic supervision of their teacher, Christa Montano. Sewn by hand and machine by groups of three students (who volunteered for the project, and thus gave up the time in which they would have sewn articles of clothing for themselves), pac-coats were large garments meant to be donated to New York's homeless population. They were large and warm, and so designed that they could be used as sleeping bags at night, or rolled up into a backpack in the warmer months. The coats took many weeks of work to complete, and the students who made them were invited to present them to a Manhattan homeless center, where they experienced first-hand the plight of New York's disenfranchised population.

What occurs when a child sets about to knit? Needles are held in both hands, with each hand assigned its respective activity. Laterality is immediately established, as well as the eye's control over the hand. From the outset, the child is asserting a degree of control over his will. The right needle must enter a rather tightly-wound loop of yarn on the left needle, weave it through and pull it away, in the process tying a knot. Only a steady, controlled hand can accomplish such a feat, so the power of concentration is awakened — indeed, there is no other activity performed by seven or eight year-olds that can evoke such a degree of attentiveness as knitting. This training in concentration helps, to use a phrase of the teacher Dennis Klocek, to "teach the will to think." It will go far in supporting the child's problem-solving capacities in later years. Children who not have the opportunity to "follow the line"

of yarn through its interwoven knitted knots may have difficulties when they are asked in later years to follow a line of thought. As Jane Healy notes:

*For example, a well-known psychology teacher at a major university in Florida said, "It's a source of amazement to me how many students can't link ideas together; they can't follow one idea logically with another..."<sup>4</sup>*

To knit properly, the child must count the number of stitches and the number of rows. By using different colors and different row lengths (as in the pattern of an four-legged animal) the teacher encourages not only attentiveness to numbers, but also flexibility in thinking. As children learn more arithmetic, teachers can devise patterns that call for two rows of blue followed by four rows of yellow followed by six rows of blue, etc. In this way numerical skills are reinforced in a challenging, yet enjoyable manner. Nor should we underestimate the self-esteem and joy that arises in the child as the result of a skill that has been learned.

Years before the first Waldorf school was founded, Rudolf Steiner and some of his associates had provided educational courses for the workers of the Waldorf-Astoria Cigarette Factory in Stuttgart. One of the aims of the courses was to provide each worker with a sense of how the work he did on the assembly line fit into the "big picture" of the whole factory, how that factory fit into the bigger picture of the conveyance of cigarettes from place to place, and how that movement of goods fit into the currents of international commerce. Waldorf schools arose so that the factory workers' children could experience the same feeling of being part of a process, which is in turn one of a multiplicity of processes that "make the world go round." When describing some of the qualities that were essential in a Waldorf school, Steiner stressed an active interest in working with one's hands:

*What matters is that [the Waldorf school's] teaching should not become mere theoretical knowledge, or a world outlook based on certain ideas, but it should become a way of life, involving the entire human being.*

*Waldorf Education is meant to be pragmatic. . .*

*Whoever has to deal with theoretical work ought to stand in practical life even more firmly than people who happen to be tailors, cobblers or engineers. In my opinion, any passing on of theoretical knowledge is acceptable only if the person concerned is also well versed in all practical matters of life, for otherwise his ideas will remain alienated from life...<sup>5</sup>*

Thus it is wonderful if a particular Waldorf school's setting makes it possible for the children to touch the sheep before they ever touch their yarn. The child who understands that the sheep gives up its own coat so that we can be clothed and adorned has already made a step towards becoming an "educated consumer." Meeting the sheep also gives a child some sense of how profoundly "natural materials" are transformed as they pass through human hands. Children are amazed that the rough, oily, and tangled mass borne by the sheep, filled with briars and caked with mud and manure, will one day be the soft, colorful and uniform yarn with which they knit. It is a memorable experience for a child to witness the man shearing as he exerts his will, wrestling with a recalcitrant ewe even as he carefully

sparing her surprisingly tender skin from nicks and cuts. Without preaching an ecological sermon, the one who shears reveals that nothing comes to us from nature without great effort and care.

Over the course of the following days, the children may get to wash and card the wool — “So *that’s* how it gets so clean!” — and watch it being spun into yarn. A walk through the woods and fields with their teacher to collect barks, onion skins, flowers, etc. to use in a variety of dyes may be followed by participation in at least one of the steps in the dyeing process. At long last, the children receive the wooden dowels which they carefully sand until they are smooth and pointed: their first knitting needles. Now they are ready to learn the steps of “casting on,” and finally knitting itself.

An article in praise of knitting by Susanna Rodell in *The New York Times Magazine*<sup>6</sup> elicited a number of responses from readers. Two letters in particular point to the effect that handwork has at once upon the will and the life of habit:

*My mother has forgotten a lot of things, but not how to knit. She and my sister and I knit four-inch squares and sew them together to make crib blankets. This project gives Mother purpose, comforts my sister and me during our nursing-home visits, provides an activity we all can share and helps a woman born in 1903 and her middle-aged daughter bless with their handwork babies who will live most of their lives in the 21<sup>st</sup> century... Knitting has got me through good times and bad. It has helped me learn the lessons of “doing it right,” “correcting your mistakes,” and patience. My Christmas gift to the young people in my extended family this year was needles, yarn and a knitting lesson...<sup>7</sup>*

After they have worked with wool in such a “hands-on” manner for two or three years, the children’s perspectives are widened as they study how wool has been derived and utilized throughout the world and in the course of history. The child’s “will-first” experience has laid a healthy foundation for this second, more classroom-oriented approach. If it is possible for children to have samples of different kinds of wool with which they may knit — or simply touch — they can compare such qualities as softness, weight, fiber strength and warmth. They can experience how different is the “feel” of lamb’s wool and sheep’s wool, and learn why the wool of some animals is garnered by shearing, while the wool of the angora rabbit or the Alaskan musk ox — the most precious wool in the world — is gently pulled off the animals’ coats in the spring.

Once the child’s sense for wool’s varied qualities in relation to geographical *space* is established, she is ready to learn about wool’s role in history, i.e., its relation to *time*. When was wool, rather than sheepskin, first utilized for clothing? Why did the Roman army issue woolen capes only to officers? How did the wool trade bolster the reign of Elizabeth I of England, and thus alter the power structure of sixteenth-century Europe? As the children mature, the yarn with which they have worked — the wool that they first encountered through their will — becomes the foundation of ever-wider inquiries into history, geography and economics.

The Waldorf teacher proceeds in a similar fashion with cotton and silk. The study of cotton takes the class to southern climes and to agrarian cultures such as Egypt, well-provided with expansive territory and readily-available labor, as opposed to “wool-based” cultures such as Greece, which evolved in rocky, less populous terrain. Two of the most important developments in the nineteenth century, the Industrial Revolution and the Civil War, had a great deal to do with the way in which wool and cotton were produced and consumed. Nor are these studies merely academic exercises. By eighth grade, students are able to use patterns and work with sewing machines: having knit and sewn by hand all those years, they can sense what a revolution was wrought when machinery accelerated humanity’s mastery over fabric.

With the study of silk, the class’s attention is drawn to the legendary discovery of the silk worm by a Chinese empress concerned about their attack on her mulberry trees. The role of the Chinese royalty in the development of silk, and the secrecy with which its origins were guarded from the rest of the world, is a tale as exciting and fantastic as the fairy tales heard by the children in first grade. In zoology and/or botany classes, students learn of the growth pattern of the silk worm as it moves through on “instar” stage after another, ceaselessly eating and ceaselessly growing. At this point in its life the worm is dependent on the human beings who tend it; like parents of a newborn baby, they must get up frequently throughout the night to “nurse” the worms and “change” them from soiled screens to clean ones.

In eighth grade, Waldorf students learn about the Industrial Revolution and the powerful effect that the invention of such machines as the “Spinning Jenny” had on English society in the eighteenth and early nineteenth centuries. Even as they are studying this profound historical transformation, these eighth graders, who have been knitting and sewing by hand for seven years, are now learning how to operate sewing machines in their Handwork classes. Where they once created an entire project from one skein of yarn, now they learn--in a more modern fashion--to “piece together” their shirts and jackets using commercial patterns. Just as the students once “recapitulated” the history of the alphabet from story to letter, now they may re-experience the transition from a manual to a machine-based culture.

In an age when children are too often encouraged to become passive consumers who, (as Oscar Wilde once said about a cynic), “know the price of everything and the value of nothing,” learning to knit and engaging in other areas of handwork can be a powerful way of bringing meaning into the child’s life. For the child who has gone through such a set of experiences, an item of clothing will not be merely a status symbol or a disposable mark of fashion; it will be a piece of embodied will activity, meant to be valued and cared for.

As the twentieth century drew to an end, swollen with pride at its technological progress, an interesting counter-current was noted in the trendy “Styles” section of the *Sunday New York Times*:

*When the Craft Yarn Council of America sponsored a “Knit Out” in Union Square in October, 7,000 people showed up. Charlotte Quiggle, the former program chairwoman of the Big Apple Knitters Guild, who*

helped put on the event, said the instructors in the teaching area literally had to push people back. "I don't want to say knitting is in vogue," she said, "but it's sort of the 'it' craft right now." . . .

"I think people are tired of looking like they're cloned," said Ms. Malandrino, who contracts 50 knitters here and in Europe to make her designs. Buying a unique hand-knit sweater is an act of defiance against companies like the Gape and Banana Republic, who some feel have essentially reduced the fashion of the masses to seasonal uniforms. . . .

The last time knitting enjoyed a boom was nearly 20 years ago, when earthy bohemian clothing was in style the first time around. Before that, knitting was just another household skill, like cooking and sewing. Not all women knitted, but most knew how. In the 1990's, it has become a means of balancing our hectic lives.<sup>8</sup>

And there are other benefits. The author Raven Metzner, who graduated from a Waldorf school, writes:

*A simple thing — I was at my girlfriend's house and a button came off my shirt and I sewed it back on. She flipped out. "You can sew?" and I said, "I can sew, I can knit, I can do woodworking." Not that those accomplishments are so wonderful, but they give you the confidence that you can take on anything.*<sup>9</sup>

It seems fitting to conclude these thoughts with a quote from Goethe's *Faust*, a work often studied by twelfth graders in the Waldorf high school. The words are those of Mephistopheles, as he instructs a naive student in the ways of logic and pedantry:

*...My friend, I shall be pedagogic,  
And say you ought to start with Logic...  
...Days will be spent to let you know  
That what you once did at one blow,  
Like eating and drinking so easy and free,  
Can only be done with One, Two, Three.  
Yet the web of thought has no such creases  
And is more like a weaver's masterpieces:  
One step, a thousand threads arise,  
Hither and thither shoots each shuttle,  
The threads flow on, unseen and subtle,  
Each blow effects a thousand ties.  
The philosopher comes with analysis  
And proves it had to be like this:  
The first was so, the second so,  
And hence the third and fourth was so,  
And were not the first and second here,  
Then the third and fourth could never appear.  
That is what all the students believe,  
But they have never learned to weave.*<sup>10</sup>

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### Notes

1. Vibeke Pedersen, *Master's Thesis*, Sunbridge College, NY, May 1994.
2. Jean A. Ayres, *Development of Sensory Integrative Theory and Practice*, cited in Pedersen, *Ibid.*
3. Pedersen, *Ibid.*
4. Jane Healy, *Endangered Minds*, (Simon & Schuster, New York, 1990) 100.
5. Rudolf Steiner, *Soul Economy and Waldorf Education*, (Anthroposophic Press, Spring Valley, NY, 1986) 128-9.
6. Susanna Rodell, "Sweater Girl," *The New York Times Magazine*, December 10, 1995.
7. "Letters," *The New York Times Magazine*, December 31, 1995, 6, 8.
8. Amanda Hesser, "Learn Much, Purl Two," *The New York Times*, December 12, 1999, 1, 2
9. Quoted in Paul Margulies, *Learning to Learn: Interviews with Graduates of Waldorf Schools* (AWSNA Publications, Fair Oaks, 1996) 9.
10. J. W. von Goethe, *Faust*, Walter Kaufman, trans., (Doubleday Anchor, New York, 1963) 199.

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