Computers in the Waldorf School
By Eugene Schwartz

I should mention at the outset that I am the proud owner of a Pentium desktop PC with multimedia capabilities and a modem, as well as a notebook computer, and that I work quite happily with a variety of Windows-compatible software. I have worked as a film editor and written film criticism, I listen to the radio, and now and then watch TV. Along with many other colleagues in the Waldorf movement, I have no objection to adults immersing themselves in the world of technological wonders.

I remember well that in the early 1950s, when I entered grade school, the "visual aids" approach that utilized a filmstrip projector was going to revolutionize our educational experience. Sometime after that, "Sunrise Semester" debuted on television, as a first step in the "video revolution" that was going to transform education in America. Several years later, I was in one of the first Advanced Placement physics classes in the nation, and our education was going to be revolutionized through the utilization of videotaped lectures by great physicists broadcast over closed circuit television. Thus I have already lived through several of these "electronic revolutions" and I've yet to see anything happening in mainstream American education except a steady decline in quality and morale among students and teachers: I have no idea where all the old slide projectors went when they were replaced by closed circuit televisions, or where the televisions went when they were replaced by computers, or where the old 386 PCs will go when they are replaced by multimedia Pentium models -but a lot of corporate marketing departments are undoubtedly very happy about the brisk sales that every new "revolution" brings about.

I don't think I'm alone in my concern about the claims that technology will assure good education. In an article titled "The Computer Illusion" in the July 1997 *Atlantic Monthly,* Todd Oppenheimer points out that, in our century, motion pictures, the radio, television and most recently the computer have each in turn been hailed as the harbinger of a revolution in education. The substance of these optimistic prophecies was well summed up by H.L. Mencken in 1918:
...there is no sure-cure so idiotic that some (educators) will not swallow it. The aim seems to be to reduce the whole teaching process to a sort of automatic reaction, to discover some master formula that will not only take the place of competence and resourcefulness in the teacher but that will also create an artificial receptivity in the child.

I have taught students from kindergarten to college level, and I served as a consultant for Waldorf and inner city public schools, and I have yet to see any "learning tool" that can replace a human teacher. Please remember that, from kindergarten through grade eight, the Waldorf school doesn't reject only computers as learning tools. Waldorf teachers also do without textbooks, basal readers, ditto sheets, bulletin boards, motivational posters, and Junior *Scholastic* magazine. There are times of day when we even turn off the incandescent lights and illumine the room with a candle; one couldn't go much farther than that in doing without all the modern accoutrements of "educational enhancement."

We have two basic reasons for this approach. Number one, as I noted before, is that we ascribe to a human-centered method of education. The teacher's living and warm presence, and the unfolding of content in the immediacy of the moment, are what conveys knowledge and wisdom most powerfully to the child. Anything that "mediates" between the child and teacher will, in some sense, weaken this living quality. We need only recall the remarkable powers of memory of people who lived in an oral tradition and compare them to the weak memories of those of us

who depend upon memos, Filofaxes, and computer PIMs to recognize that something is lost when person-to-person pedagogy disappears. The fact that the teacher has worked to study sources, to distill them into a quintessence that is customized for her particular class, and is ready to patiently present and, if necessary, to repeat, what she has presented-none of this is lost on the child, for whom the living teacher is a model of the "lifelong learner."

No matter how sophisticated the graphics and how "lifelike" the synthesized voice, a very impersonal element creeps into the child's educational experience. A subtle sense arises that machines, rather than people, are the "good" teachers. If a living teacher is the child's role model for learning, the child will naturally strive to become more of a human being; if software and the ghostly images of people on television screens are the role models, the child will slowly become ever more "machinelike", impersonal, and "cool". The tragic loss of human values and conscience among the young in America may be symptomatic of the malaise of a generation raised by, entertained by, and increasingly educated by the non-human and conscience-neutral media.

As Waldorf educator John Gardner has pointed out, intellectual explanations may temporarily satisfy a child's curiosity, but it is no less essential for answers to awaken the child's sense of wonder. Curiosity is a quality notorious for its insatiability: questions born out of mere curiosity, once answered, lead only to more questions. How many fairy tales commence with the one door that is not to be opened, the one room that is not meant to be entered, and so on, which proves to be the undoing of the curious protagonist? We know that we have evoked wonder in the soul of the child when, instead of questioning us further, the child pauses and breathes deeply; we can sense that the child has been fed and nourished, not just stuffed with mental junk food. Instead of being battered by an endless stream of external sense impressions, the child takes on a mood of "active contemplation."

Scientific explanations of phenomena for example, the fact that particles, light rays, and water vapor interact to make the sun "appear" to be red may be perfectly satisfactory to a modern, intellectually educated adult. To the child, however, the random interaction of these chemical and physical entities is *lifeless.* The world becomes a complex collection of passive phenomena, brought about randomly, with no particular plan or goal motivating its action. Such lifeless pictures gradually inculcate passivity in the child's soul. The enthusiasm of public television science specials, the bells and whistles of CD-ROMs and science Web sites, even the impressive effects of "virtual reality" software, cannot revivify a world view that is, in the eyes of a primary-school child, virtually dead.

In 1992 two researchers-Gary Nabhan and Sara St. Antoine interviewed 52 eight-to--fourteen year-olds living in the Sonoran desert in the borderlands between the United States and Mexico. They found that even these children, who live in a relatively wild place and among whom are children from two Indian tribes, had had very little experience of nature. Few had spent more than a half-hour in a wild place or had ever collected natural treasures such as feathers or rocks. Almost all of their experience of wildlife had come from television.

Where, in watching television, is anything asked of the imaginative capacities of the young person as she apprehends nature? Where is the possibility for a meaningful encounter between the developing sensibility of the child and the wonders of life and growth? It is not surprising that such an insensitive replacement of active life experience with passive transmission of information

leads even computer specialists to urge educators to exercise caution. As Sherry Turtle, a professor of the sociology of science at the Massachusetts Institute of Technology and a longtime observer of children's use of computers, told Todd Oppenheimer:

The possibilities of using this thing (the computer) poorly so outweigh the chance of using it well, it makes people like us, who are fundamentally optimistic about computers, very reticent.

The second reason Waldorf teachers eschew computers and other electronic media as teaching *tools* is based on our conviction that children are not "little adults," who in essence perceive the world and think about it much the way adults do. We believe that the consciousness of the child is radically different from that of the adult. Rather than impose all of the technological wonders of today's world upon the child-much as the zealous missionaries of the nineteenth century set about imposing the "advantages" of modern life upon the "deprived!' South Sea islanders (and thereby decimated the indigenous population in the course of a generation) -we should be learning more about the world of childhood and creating a space in which that world can manifest.

It is obvious, for example, that a five-year-old has no business sitting behind the wheel of an automobile. The power and weight of the vehicle and the complex judgments that must be made at any moment would overwhelm the physically weak and mentally dreamy child; the situation could be fatal. Yet children of that age, or younger, are let loose on the "Information Superhighway" with hardly a driving lesson. I would contend that a television set, a VCR, or a computer are no less overwhelming (and no less inappropriate) to a child than is a car. Only because the child is sitting in one place do we fail to see the deleterious consequences of the technological assault of the media on our child's senses and psyche. As a recent observer notes in *Caught in the Web* (January 1997):

Currently more than a million youngsters under the age of eighteen go on line regularly and the number is expected to climb to 15 million by the end of the century. Advertisers are now using cyberspace to leverage [youngsters' huge]buying power, because they know that the medium has a mesmerizing effect on children, who are usually not accompanied online by adults.

There are far too many children who are "mesmerized!" by electronic media, whose only experience of nature comes from television shows, whose only experience of the legacy of storytelling comes from software. Will such youngsters have any basis by which to judge what is "real" and what is semblance, what is true and what is false?

Waldorf teachers believe that it takes a number of years for a child to *become* a truly "modern person," and that in the course of those years the child needs to be surrounded with an environment that is not completely "modern" and certainly not "technological." Indeed, a child who can live in an unmediated connection with nature, and then in an unmediated connection with the world of stories (told by parents, and then by teachers), who is allowed to actually hold a paintbrush or a crayon, or to model in beeswax and to sing and play a real instrument-a child who has had real experiences of life rather than animated and digitized substitutes for them offered by software-such a child will have the healthiest foundation for valuing technology in later life.

It is important for us all to realize that, in spite of the widely advertised advantages that computer-literate students are said to have over students learning in the old ways, there is as yet no conclusive evidence that this is so. The hoopla with which politicians and corporations have

surrounded the computer issue serves as a smokescreen for the lack of substantive research that has actually been done concerning technology in the classroom. As Todd Oppenheimer writes (in the previously cited *Atlantic Monthly* article):

Unfortunately, many of these studies (concerning computers in the classroom) are more anecdotal than conclusive... "The research is set up in a way to find benefits that aren't really there, Edward Miller, a former editor of the Harvard Education Letter, *says., "Most knowledgeable people agree that most of the research isn't valid. It's so flawed it shouldn't even be called research. Essentially, it's just worthless." Once the faulty studies are weeded out, Miller says, the ones that remain "are inconclusive " -that is, they show no significant change in either direction. Even Esther Dyson admits the studies are undependable. "I don't think those studies amount to much either way," she says. "In this area there is little proof."*

Another computer expert, David J. Gelernter, professor of computer science at Yale University, shares these concerns. As quoted in a November 30, 1997, article in the *New York Times,* he says that:

Computers themselves are fine. But we are in the middle of an education catastrophe. Children are not being taught to read, write, and know arithmetic and history. In those circumstances, to bring a glitzy toy into the classroom seems to me to be a disaster. It reinforces our worst tendencies. The idea that children are in educational trouble because they don't have access to enough glitz and what they really need is a bigger database is staggeringly ludicrous. They need practice in the basics.

A dogma is a truth that a person holds without understanding the reasons behind it. The view that Waldorf teachers hold concerning computers and other electronic teaching aids is not dogma. I think that most Waldorf teachers understand perfectly well why television and other media are antithetical to the Waldorf approach to education. I believe that a strong and assertive media policy would provide a foundation for a healthy Waldorf school. What the child receives in a Waldorf classroom in the early grades is delicate, as matters of the imagination always are; exposure to the powerful and usually ugly images of the mass media can easily overpower what is living in a germinal state in the child's soul. Given time and opportunity, these seeds of imagination will ripen, and the child will be able to face the modern world well armed and armored. I hope that every Waldorf student will become an adult who can use a computer or a television (or their future equivalents) and value them for what they are and not be enslaved to them, or idolize them as an expression of superhuman intelligence.

It is not unusual for Waldorf high schools to use videotapes on occasion in classes (I used them in my high school "Media" course). In most Waldorf high schools, students work with computers in the eleventh grade, *after* they have learned about the mathematical, scientific, and historical bases upon which the computer is formulated. It is not a matter of rejecting the media, but recognizing when a given medium is appropriate, and under what circumstances.

The foundation for understanding the approach of the Waldorf schools to this matter lies in an understanding of the nature of the changes that occur in our consciousness throughout human life, and especially in childhood. If you are interested in pursuing this matter further, I would suggest a book that I have written entitled *Rhythms and Turning Points in the Life of the Child.* Other books that parents have found helpful, written by authors not involved with the Waldorf school movement, include: *Endangered Minds: Why Children Don't Think and What We Can Do About It* and *Failure to Connect: How Computers Affect Our Children's* Minds - *for Better and*

Worse both by Jane Healy; *A is for Ox: Violence, Electronic Media, and the Silencing of the Written Word* by Barry Sanders; *Four Arguments for the Elimination of Television* by Jerry Mander; and *Evolution's End* by Joseph Chi1ton Pearce.

And let me conclude, not with my own words, but with excerpts from an interview with Apple founder Steve Jobs in the cutting-edge computer magazine Wired (February 1996):

I used to think that technology could help education. I've probably spearheaded giving away more computer equipment than anybody else on the planet. But I've had to come to the inevitable conclusion that the problem is not one that technology can hope to solve Historical precedent shows that we can turn out amazing human beings without technology. Precedent also shows that we can turn out very uninteresting human beings with technology.

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