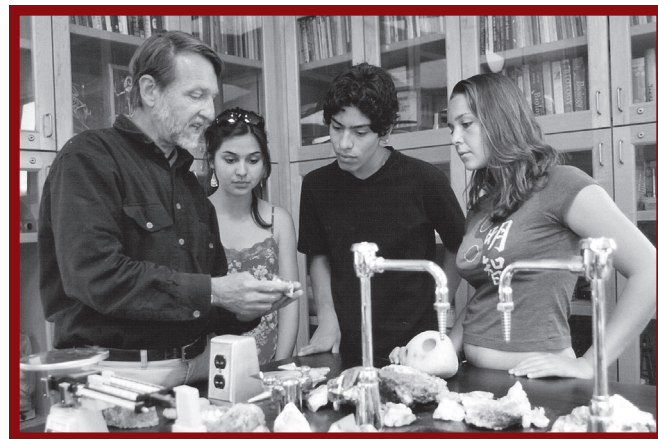




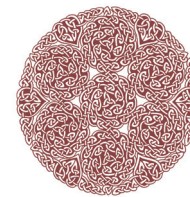
Enrollment Supplement

Waldorf and Adolescence

We all vividly remember our high school years. During this span of time our self-awareness and self-questions were at a pinnacle. Our memories range from despair to elation as we review those exciting but turbulent years. There is no pathway around this stage of life ... we must just bear them and proceed straight ahead.

In a Waldorf high school each student is seen as an individual with unique talents needing to be honed and academic skills needing to be rigorously exercised. At the same time the students seek truth in all they encounter, be it the course work or adult interaction. They see the world as theirs and are sheltered by the tempering of hardships and disappointments which age introduces.

The following four articles present the mood of the high school classroom as well as some of the content of the lessons. It is hope that they will give you more insight as you consider the option of enrolling your son or daughter in a Waldorf high school.



THE MAGICAL MYSTERY TOUR OF ADOLESCENCE

by

David Sloan

Astral Storm Coming in: The Ninth Grader

Most high school freshmen have already reached puberty. They find themselves in possession of an inner realm that seems to control them more often than they control it. Parents who have lived with a fourteen- or fifteen-year-old know that the experience is akin to living in an amusement park with the roller coaster constantly whirling around the house. Teenagers at this

age are by their very nature extremists, swinging from giddiness to depression, from dreamy unawareness to acute attention within the space of seconds. However, it is important to differentiate between boys and girls at this age; the gap between them is so great that they appear to belong to different species.

For a couple of years at least, it is as if the gods stack odds in favor of the girls. As the girls themselves will so readily explain, they are simply more mature than the boys when they enter high school, and, of course, they are right. The girls come into ninth grade ready to dive into and share their burgeoning inner world, while the boys seem somewhat bewildered by all the changes they are undergoing.

Rudolf Steiner explains the huge gender gap at this age in spiritual terms. He points out that, at this age, the incipient forces of the Ego—the forces of our mature and higher Self—permeate the feeling life of girls. Steiner termed our feeling, or soul, life the astral body. This absorption of Ego forces into the feeling realm intensifies girls' awareness of the depth and potency of their emotions. So strongly can girls feel their newfound blend of passion, power, and

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discernment that they can become emboldened to the point of sassiness. Steiner suggests that, in contrast, the Ego forces of boys penetrate less into their feelings and more into their physical natures. That may help explain that, while the girls become so enamored of and so interested in talking about relationships, in writing feverishly in their secret diaries, and in fantasizing about saving all the homeless children in Calcutta, or perhaps about marrying Johnny Depp, the boys are still out on the playing field punching each other and giving one another wedgies.

Ninth-grade boys can appear to be crude dullards when compared to their female counterparts, by whom they are often dwarfed, sometimes in stature as well as in sheer, overpowering emotional intensity. The girls seem very eager to confront life, while the boys would just as soon hide themselves away until they are better equipped. Jaimen McMillan, founder of Spacial Dynamics—an approach to movement education used in many Waldorf schools—once described this stage of male adolescence by saying that the fourteen-year-old boy might as well wear a sign that says simply “Under Construction” like those building sites that are surrounded by a wall of boards with barbed wire strung around the top.

Fortunately, this gap usually closes by eleventh grade. As one of the feistier boys once remarked to a girl who, for the umpteenth time, had just pointed out how much more mature girls were than boys, “Sure, you girls are more mature for a little while, until the boys pass you by as juniors while you stagnate where you are for the rest of your lives.” Despite their differences, both boys and girls at this age live in the polarities of their mood swings.

The Temptations of the World: The Tenth Grader

It is not a hyperbole to say that a dramatic, even radical change takes place between the freshman and sophomore years. Those teachers who deal with adolescents day-to-day and month-to-month will attest to the surprising transformation that can occur in the summer before the sophomore year. Perhaps it has something to do with having a year of high school already under their belts, or perhaps it can be attributed to natural maturation. In either case, sophomores often return to school in the autumn much fuller of themselves than they were as humbler ninth graders. Instead of seeing them as neophytes flailing about in the aforementioned ninth-grade swamp, we might picture them as the self-assured crew members of a sleek, Greek sailing ship, leaving the protective home harbor, setting out for open water. They seem

more comfortable with themselves and more confident than ever of their cognitive abilities.

Yet we teachers have noticed another pattern that often emerges during tenth grade. Perhaps it can be traced to this newfound confidence that can border on brazenness. Whatever the reason, many sophomores go “overboard” sometime during the year. They get themselves in some kind of trouble—with drugs, sex, stealing, lying. In other words, many tenth graders succumb at one point or another during the year to those myriad temptations the world has to offer.

Is this true for all sophomores? Of course not. Some boys and girls “fall” in sixth or seventh grade, some not until much later. But the general tendency is for this to happen, if it happens at all, sometime in the student’s sophomore year.

The Dark Night of the Soul: The Eleventh Grader

What happens to eleventh graders? Why do so many of these ex-sophomores, who were so full of themselves, who just a few months before had exhibited a kind of bluster and swagger and smugness, now in eleventh grade find themselves stricken by a malaise that can be termed a “dark night of the soul”?

Some time ago, a mother of one of my eleventh grade students met with me and shared her concern that her formerly happy-go-lucky, genial, mountainbiking son had become evasive, burdened, noncommunicative, and reclusive—almost a stranger to his own mother. This was a single mother describing her only son; she was naturally worried that these changes might indicate some deep psychological problem. Was some heretofore hidden hurt from a childhood trauma bubbling to the surface? Was he using drugs? Had something happened at school between him and his classmates?

So I took this student (whom I shall call Matthew) aside and spent lunch period one day talking to him about his experience of being a junior. He is a wonderful fellow who always appears to have just woken up; in fact, he always looks as if he’s just slept in his clothes! But underneath that rumpled exterior is a very astute and articulate young man. Yet when I asked Matthew to describe what he’d been feeling during the fall, he was initially at a loss for words. Is it so surprising that young people can’t always express what they’re experiencing at the moment! How can we expect them to have much perspective about the very air they breathe, the state of soul that envelops them! As the saying goes, “We don’t know who discovered water, but we’re pretty sure it wasn’t a fish!”





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Nevertheless, Matthew was able to describe his recent despondency as “a kind of funk.” “I’ve been in a haze,” he said. Then he said something as true of the eleventh-grade experience as any I’ve heard. He said simply, “I’ve gone inside.” Matthew went on to say that he didn’t know if it was a good or bad thing, but he found himself wandering inwardly. Matthew had begun to discover that he had more inner chambers than he had ever realized before and he was becoming more and more interested in what makes himself tick.

Douglas Gerwin, widely known Waldorf lecturer and a longtime colleague, once characterized this inner exploration in the following manner. Picture a young person, sixteen or seventeen years old, wandering through a large house. She strolls through familiar rooms, looks out to vistas she has known since childhood. Then she notices and opens a door to a wing of the house she never knew existed. She walks down a dark and unfamiliar corridor, her breathing quickening. Without warning, the floorboards beneath her give way. She falls and lands painfully in an even darker, dungeon-like basement, surrounded by eerie shadows and strange, chilling noises. This is akin to the inner “soulcape” experienced by so many juniors—a sudden descent into dark, even forbidding chambers that nevertheless beckon to young people, no matter how awful the potential revelations might be.

During this dark night of the soul, it seems clear that eleventh graders suffer. One of the ways this manifests is as a deeply felt crisis of confidence. Early one fall, I had a tearful meeting with a girl in the junior class—she was the one crying—about how hard everything in her life had become. She was certain that she was the only one in the class who took six hours to do her homework and that, for all her efforts, she was the only one rewarded with mediocre marks. However, I had had nearly the exact same conversation with two of her classmates the week previous! I put these girls in touch with one another so that discovering fellow sufferers might provide some consolation. Yet I really tried to resist the impulse to somehow make these students’ struggles less difficult and less painful. Cruel as this sounds, all the angst in the eleventh grade may be both inevitable and, in a certain way, even desirable.

At the Grand Threshold: The Twelfth Grader

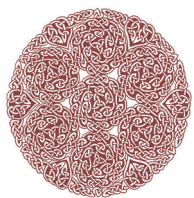
I once hosted an evening attended by parents and middle school students. They had come to hear approximately thirty twelfth graders from four different Waldorf high schools speak about their school experiences. The seniors began by recounting their recent, weeklong camping trip to Hermit Island,

Maine, where they had studied marine biology. wading in the tide pools of the rocky coast. The students did not simply gather specimens; they examined them under microscopes, sketched the creatures and their environments, wrote poems inspired by Rachel Carson’s nature writing, painted seascapes, danced, and sang together.

As the twelfth graders described their activities, a number of them expressed appreciation for the opportunities for hands-on learning. One girl summed up the experience as a reminder that all of nature seems to be quietly urging, “Pay attention”—not only to the spectacular sunsets, but to the understated moments that might otherwise go unnoticed: the skittering of a sand crab across a tide pool floor, the swaying of rockweed in the water, the curving flight of gulls.

Toward the end of the evening, one parent in the audience commented on the students’ eloquence, poise, and insight. Indeed, these young people exuded an unpretentious self-assurance that is characteristic of many Waldorf twelfth graders. As contracted and broody as eleventh graders can get, seniors often seem to acquire a new dimension, an expanded awareness that wasn’t there before. They stand poised on a great threshold, straddling both the world of the school that they are rapidly outgrowing and the larger world they can’t wait to take by storm. Their vision seems to broaden as their thinking deepens. These suddenly larger souls grapple daily with profound questions about their life in the world, the challenge, for example, of how both to express their ever-strengthening individuality on the one hand and at the same time to live in community. And they have a passionate yearning for a new brotherhood of humanity that transcends ethnic and national boundaries.

DAVID SLOAN was born and raised in Southern California. He graduated from Harvard College, received a Waldorf teacher training at Emerson College in England, and is currently completing an MFA in Poetry through the Stonecoast Creative Writing Program at the University of Southern Maine. After more than a quarter century of teaching at the Green Meadow Waldorf School in Chestnut Ridge, New York, David and his wife, Christine, have relocated to Brunswick, Maine, where he is helping to launch a high school for the Merriconeag Waldorf School in Freeport. David’s latest book, Life Lessons: Reaching Teenagers through Literature, from which the above excerpts are taken, is available from AWSNA Publications at: <http://www.awsna.org/catalog/>.



WHAT WILL TODAY'S CHILDREN NEED FOR FINANCIAL SUCCESS IN TOMORROW'S ECONOMY?

by

Judy Lubin

The growing “creative age” economy calls for the development of human capacities, capacities that Waldorf schools have cultivated for nearly a century.

A Changing Economy

Today's economy is changing. While Waldorf school educators have long believed in the importance of educating children to develop into capable, competent human beings, we are entering a time in which economic success increasingly depends on these same principles. The skills and capacities needed for financial success in the new economy are those that are already a focus of development in Waldorf education: creativity, social skills, self-knowledge, and an inner sense of responsibility or virtue.

A quick look at anecdotal evidence shows a shift in skill categories and job types. Computer programming, work that we used to consider white-collar and highly skilled, is increasingly done, not just outside the United States, but specifically in economies that we would call developing or less developed. Summarizing various sources, journalist Daniel Pink finds that, within the next two years, one in ten computer or Internet technology (IT) jobs will move overseas. By 2010, one in four will have left the United States. Forrester Research predicts that, by 2015, more than 3 million white-collar jobs, with an accompanying \$136 billion in wages, will move to lower-cost countries. Developed nations like Japan and those in Western Europe will see similar patterns of white-collar job movement.

The IT industry is not the only one experiencing this trend. The white-collar financial services industry, over the next five years, will transfer approximately half a million jobs to lower-wage areas of the world, according to an AT Kearney estimate.

In almost all cases, the types of white-collar jobs that are leaving economies like ours are those that rely on routine cognitive skills. For example, while computer programming requires cognitive abilities, much programming is routine enough that it can be done by computers themselves, precisely because it is so heavily rule-dependent. The common website development tool InDesign® is just one example of a program that writes programs as it translates graphic displays into HTML code.

Two separate studies, one by NYU economics professor Edward Wolff and the other by Frank Levy and Richard Murnane, economics professors at MIT and Harvard, respectively, have shown that, over the past decades, we have seen little to no growth in jobs that require either manual or routine cognitive skills. The output of routine cognitive, or rule-based, skills is invariably a product that is itself routinely enough produced that it can be coded and sent through a wire. This means that routine cognitive work, like manufacturing, can be done wherever it is cheapest, by a machine or in a low-wage country. In Bangalore, India, for example, IT workers currently earn about one-seventh of the wages that the same work used to earn in the U.S. Accordingly, Bangalore is currently absorbing a large portion of outsourced IT work.

In this context, the SATs and other standardized tests, like writing computer programs, require cognitive work, but, precisely because the answers must fit into one of several boxes, can test only routine cognition. Increasingly, those with high SAT scores and little else to show on college applications will find themselves prepared for only low-wage jobs.

The Creative Age

The type of work that is on the rise and still earns a decent living is work that involves not only uniquely human skills, as opposed to skills that a computer can copy, but skills that are not standardized across humans. Both Wolff and Levy and Murnane found that nearly all job growth over the past several decades has come in the form of jobs requiring complex communication and complex cognitive work or expert thinking. By “expert thinking,” the authors primarily mean solving problems that have not yet been solved. To simplify their terminology, job growth has occurred in those jobs that require creativity and relationships.

Case studies of Silicon Valley show that the manufacture of commodity products has long ago moved offshore. Companies that remain are those that innovate and those that produce custom products for a small set of clients. The success of these custom

or her to “remember” all of the experiences that were encountered and have a feeling (sense) for all of the relationships that were found.

Where Does This Lead? A Brief Sketch of Some Elements of the High School Physics Curriculum

Phenomena-based methods can continue to be used in high school and, from my experience, very successfully. If the students have a solid foundation in observation and stay attentive to the phenomena under consideration, then they can really delve into almost any topic in science and understand it in context.

For example, in 9th grade the students begin a study of thermal phenomena by performing a few experiments and then making clear distinctions between the concepts of heat and temperature. A modest beginning, no doubt. However, by the end of the second week of the block, the class will have progressed toward the solution of basic algebraic problems in thermal physics. For example, the students can calculate how warm a known mass of cool water in a bucket will get if a specific piece of hot copper is cooled by plunging it into the bucket. In our school the students perform this activity in the context of making a hammered copper bowl. The physics block ends with a fairly thorough understanding of a four-stroke internal combustion engine. And yes, the students do disassemble an automobile engine before we speak about how it works.

In the 10th grade, the students develop the laws of mechanics and take up some of the same questions that Galileo wrestled with as pointed out earlier.

In the 11th grade, the students deal with the non-material world in physics, the field theories of electricity and magnetism. The students wrestle with forming concepts from experiments that can only tell us indirectly about what is being experienced. The electric or magnetic fields themselves are not visible. Yet we can see effects on sensible phenomena (objects) that tell us how these forces behave.

In our school the students also study atomic theory in the 11th grade. Now the students have the mental ability to really work with the phenomena as well as the conceptual framework that evolved into the atomic model of matter. What is more, by waiting until now to expose the students to this model, it is possible to take the students beyond the simplified version of this theory usually studied in more conventional science programs.

This means that in conjunction with the work on field theory described above, the students can now develop an appreciation for the general descriptions

and ideas that are being discussed in even the most recent research, in which the experiments result in phenomena that have lost most of the qualities we normally associate with matter! Again, this can occur only when the students have developed a clear understanding of the distinction between the perceptual world of the senses and the conceptual world of the mind.

In the 12th grade, the students delve into visual phenomena. Now, they can finally take on some of the philosophical questions that arise when we ask, “How do we see the world?” Or expressed in another form, “What is the foundation for knowing?”

Instrumentation and Equipment

As a final note, when speaking with parents about phenomenological methods, the question of instrumentation can often arise. Yes, electron microscopes and electric meters can be very useful tools for scientists and engineers. However, it is very easy for students, most adults and even many scientists to lose track of what is actually being observed. For example, the “image” created by an electron microscope appears to be an “object” but is in fact a visual representation of varying strengths of an electric field. While the distinction made can seem small, the implications of such statements can be tremendously important as one proceeds deeper into the sciences. Therefore, in the schools we want to use only equipment that students are able to understand with their present mode of consciousness. This implies simple equipment in the middle school years and somewhat more sophisticated instrumentation later on. Remember, the thinking capacities of the students have less to do with what instrumentation they can use and more to do with how they work with the observations they have made.

*MICHAEL D'ALEO teaches Physics and Physical Sciences at the Waldorf School of Saratoga Springs in Saratoga Springs, NY, and is an instructor in the summer high school teacher training program at The Center for Anthroposophy in Wilton, NH. After being a class teacher for grades 6–8, he co-authored a book with Stephen Edelglass, *Sensible Physics Teaching, a Guide for Teaching Physics in Grades 6–8*. Prior to teaching, Michael worked as a design and development engineer in the electronics industry and is listed as an inventor on seventeen U.S. Patents. He is currently the director of research for SENSRI, a non-profit scientific research group that investigates the methods and applications of phenomena-based science. Michael shepherds the Teaching Sensible Science workshop for the Research Institute of Waldorf Education, a course training practicing teachers in phenomenological science.*

An Example

I can recall how many of these elements came together for the first time during a specific lesson in the 8th grade. We had observed colored fringes (refraction phenomena) while looking through any kind of prism at objects that had light surfaces that bounded dark surfaces. In class we developed the convention that one of the edges of the prism would always face upwards, and we all held our prisms at eye level so that we would all see the same order of colors when we all looked at the same boundary. Given this orientation of the prism, when the light surface was above the dark surface, the warm spectrum (red, orange, yellow) was observed and when the dark surface was above the light surface, the cool spectrum (blue violet) was observed. For homework that night, I gave each of the students a prism and asked them to draw a “scene” in their main lesson book of their own room at home.

The following day I asked the students to show me their drawings and received the following unexpected response from one of the students that sounded something like this: “It didn’t work. I don’t know what happened but I started to do the assignment and everything was going well and then it stopped working! Maybe something is wrong with my prism. I started to draw my wall with the window and at first there were the colors, just like yesterday. Then after awhile the colors started to get fainter and sort of disappeared, so I gave up. Then when I came back later to try and do it again the colors were back, only this time, the warm and cool colors were now switched from where they were before!”

I stood in the front of the class and pondered this statement for a few moments. I imagined her house, the time of year (December), and sensing what might have happened, proceeded with questions. “What time of day did you begin?”

“Late afternoon,” she replied.

“Specifically what time?”

“I started about four in the afternoon and worked for half an hour.”

“Is that when the problem started?”

“Yes, so I stopped and then tried again after dinner. That’s when the colors switched”

I then turned to the class and asked them what had changed during that time. Eventually, the students realized that the sun was setting at that time and that their classmate had been working in a room without a light on. Under these conditions, the light colored window (there was snow on the ground, and her house was in an open field) and the relative darker coloration of the walls (in a room lit only from the sun outside) gave

her one orientation of colors. As the sun set, everything in the room and the window began to appear dark so there were no longer any light/dark boundaries visible. When she returned from dinner it had become very dark. The class eventually realized their classmate had turned on her bedroom light so that now, the window was dark and the walls were light. These were the opposite conditions that she had started with and the reason for all of the difficulties that night!

What had happened in the class was remarkable. The frustrated student had given her classmates a real opportunity to understand the conditions for color fringe phenomena because she had observed something that at first appearance made no sense. In time, the class sorted out the mystery and the teacher’s task was to simply find the right questions that would help the students discover the relationship out of their own efforts. Finally, the student who made the observation felt empowered by her discovery.

Using a conventional approach to science education, one usually begins with “the law” and then performs experiments or demonstrations to show its justification. In a class with a conventional approach to science, it would have been very easy to dismiss the experience above as something that did not fit “the law of refraction.” This can send a student the message that the senses cannot be trusted. Yet, it was because people used their senses, and carefully so, that the lawfulness was found in the first place!

A Brief Comment on Bookwork

Finally, it is important for all students to make the experience and the discovered relationships their own. In the middle school years, a lot of time can be spent developing clear and orderly descriptions of what took place and what were the relationships that were uncovered. While these descriptions can be completed initially as a class together, in time each individual child should begin to develop a responsibility for his or her own record of “what happened.”

In any case, the teacher should check and make suggestions on “first drafts” to ensure that each student is developing a clear relationship to observations, sequencing and finding appropriate relationships. For some experiences, a detailed illustration might capture all of the phenomena and relationships and a written essay would be redundant.

In time, each teacher can develop a sense for the balance between written work and illustrations, rather than simply insisting that each demonstration must include both. By the end of the block, ideally each student will have a main lesson book that helps him

shops depends substantially on the ability of the people within the company to maintain stable relationships with clients.

Even if we haven’t yet agreed upon a new name—the “creative age” gets my vote—we have realized that the term “information age” barely begins to grasp the concept of our current reality. Today, more Americans are employed in the arts, entertainment, and design industries than are employed as lawyers, accountants, and auditors. Compared to the mid-1990s, ten times more people work as graphic designers. Our economy also has more artists and writers than ever before.

Using a stringent definition of creative industries that includes primarily artistic work or innovation, business consultant John Howkins estimates that the value of the creative economy in 1997 was \$2.2 trillion (seven percent of world GDP), and is growing at five percent per year. The United States and other developed countries contain the greatest share of this creative economy.

Attempting to account for changes in the way work itself is done, Carnegie Mellon economics professor Richard Florida uses a more liberal definition of creative work. He finds that more than thirty percent of the work force belongs to the “creative class,” a group of people whose primary occupation involves creativity-based human capital and whose numbers now surpass those of the working class. Florida’s definition of “creative worker” stretches the common sense definition to include managers and others who perform jobs that still can be done in the old fashioned, noncreative way. This comes from the attempt, however, to recognize that even old jobs are being done differently. UCLA education professor Mike Rose agrees with a multi-industry analysis that finds that, these days, even jobs that we would consider blue-collar require high levels of cognitive capacity.

Their insights are supported by researchers like David Angel, who finds that production engineers in Silicon Valley are responsible for almost as much innovation, through problem solving during manufacturing, as design engineers. Concurrently, these engineers earn substantially higher wages than production engineers in the same industry, who work under different policies that confine creativity to the design stage. Incidentally, Silicon Valley firms have continually outperformed firms with more hierarchical structures, structures that confine innovation.

Structures

When skimming across the surface of today’s new economy, we may wonder if these changes are not just the latest fad. But an examination of these changes at the structural level of the economy shows that we are moving into a time in which broader human skills form the basis for success.

Before examining the structural foundation of the new creative economy more deeply, however, we will explore the structure of the industrial age economy that we are leaving behind. The goal is to trace the economic forces that pressured society to emphasize the human-as-automaton paradigm and to show how the creative economy is reversing this pressure, so that economic success is becoming more aligned with personal goals and the process of becoming human.

The industrial age was a time in which first manual and then routine cognitive skills were emphasized. We have found that the work of both of these skill categories can be replicated by machines. Yet, there is something deeper, at the structural level of the industrial age economy, that reinforced a less human-centered path.

While the industrial age was driven by the creative innovation that led to the machines that then dominated the economy, the machines themselves quickly became more salient than their invention. At the beginning of the industrial age, most of the new machinery was used to increase productivity at pre-industrial tasks, like farming. But, for individual economic success, the important point was not so much the increase in productivity, but, rather, that the machines themselves were scarce. While we had invented our way into higher productivity in many tasks, we had not yet invented a way to produce the machines themselves quickly and easily. Because of its scarcity, machinery generated economic value. Physical capital, not human skill, became the main wealth-creating asset of the economy. Unlike human skill, physical capital is stored externally to humans and is fully transferable from one person to another.

In the industrial age, physical capital did transfer straight up the capitalist hierarchy, despite the clear violation of decentralized economic power required of foundational free market theories. By the early 2000s, the wealthiest ten percent held ninety percent of the nation’s marketable wealth. With forty percent of the nation’s wealth owned by just one percent of the population, our modern democracy is exactly as topheavy as England’s monarchy in the 1700s.

In other words, the industrial age was a time in which the single most important capacity for the

generation of wealth was wealth itself. This recognition tells us what concerned industrial-age parents wanted to do to ensure their children's success—build wealth and pass it on.

For most, this was easier said than done. With an uneven distribution of capital and an uneven ability to generate new wealth, the industrial age saw a new game that looked surprisingly like the old game of aristocracy. Asset owners needed workers to use the owner's assets for production in the same way that kings needed peasants to work their large land holdings. For asset owners, the ability to be creative and to take risks with their assets led to success. For those who did not own financial assets, success depended on an ability to continue working with someone else's financial assets. The ability to obey became the single most important capacity for financial success for those who had jobs and did not own the means to their livelihood. Our system of public corporations, by the way, ensures that even CEOs have bosses—the shareholders.

Everyone an Entrepreneur

These are some of the very issues that Rudolf Steiner's threefold social organism was meant to address. They are also the very issues that are becoming outdated in the modern economy. To this end, it is useful to remember that Steiner explicitly envisaged his threefold social organism to create a situation in which everyone is an entrepreneur. No person will sell his or her labor, only the product of the labor. There will be no worker-boss relationship as we know it today. Instead, every individual will be in charge of his or her own career. A system of rights will help entrepreneurs negotiate on equal footing, so that economic cooperation can occur in an environment of dignity for everyone.

While this description is a far cry from the industrial-age economy that dominated Steiner's day, it is the very direction in which we are moving. No evidence suggests that we are on track soon to reach the full promise of a threefold social organism. We do, however, increasingly see the need for the same entrepreneurial skills that are needed to make Steiner's vision a reality. Further, the primary assets that creative economy participants use to ply their entrepreneurial talents are those that are uniquely human in nature. In other words, educating the whole human being is becoming an economic necessity, not simply an alternative lifestyle choice.

We must expect that we will invent ourselves into a new system that is more in keeping with the

entrepreneurial nature of a human-based economy. The uneven wealth distribution brought about during the industrial age means that the "have-nots" have the same incentives to overthrow the "haves" as peasants had to overthrow an unjust monarchy. Rather than revolution, however, incentives also exist to invent a new system around the old, as we are currently doing.

We do not live in a world in which everyone is an entrepreneur, but we are much closer now than we were during the industrial age. Pink estimates that, in 2001, thirty percent of Americans were entrepreneurs, in that they were self-employed, contract workers, or involved in a micro-business of fewer than four employees. Although large corporations, because of their political power, still predominate, the number of smaller companies is on the rise. Today, more than half of U.S. businesses, and ninety percent of engineering firms, are micro-businesses.

With high rates of job turnover in modern times, even many of those who work for large companies do so with an understanding that the employment relationship is but a part of the career that they themselves manage. By the mid-1990s, economist Henry Farber found that, for the entire economy, approximately half of all jobs last less than one year. In creative economies like Silicon Valley, these numbers can be even higher. Up to sixty percent of Silicon Valley engineers quit in a given year, with almost eighty percent of resignations reflecting movement to another Silicon Valley job, showing that, instead of being committed to a single firm in the fashion of the late industrial age, these engineers are committed to their own careers in the Valley. Management expert Suzy Wetlaufer interviewed some of these highly successful high-tech workers and found that they will stay at a company only if the work delivers a constant stream of growth and challenge that engages their hearts and minds.

Not only is the creative economy more entrepreneurial, but its roots are structured differently. By the 1980s, economic and sociological researchers had coined the term "agglomeration economy" for areas like Silicon Valley that were the beginnings of what John Howkins and others now call the creative economy. These agglomeration economies both begin with and thrive on an influx of human thinking capacities. While the ability to continually increase aggregate levels of human cognition is the make-or-break criterion, a snowball effect means that the more competent workers an area has, the easier it is to attract even more workers, each of whom values working with other competent people. Growth becomes

were perceived and out of this the students began to distinguish familiar forms (a classmate's head). The students then began to notice that some colors on their clothing were more easily discernible during the "darker phases" than other colors. White was seen early on, but it took a brighter level of illumination to distinguish white from yellow. Red was also seen fairly early, while a relatively bright level of illumination was needed to identify a blue stripe on a sweater that had a black appearance under lower levels of illumination. By the time the light bulb was at its maximum level of brightness, we were all "blind" again, as all we could see was white brilliance. One of the key points the students finally articulated was that the colors changed with the level of illumination. Less obvious but equally present was the role that color plays in our ability to take a two-dimensional image of color and form, and relate it to our everyday three-dimensional spatial orientation. This was just touched upon, as it would become clearer through their experiences in painting class and their study of Renaissance art in 7th grade.

The middle school years is also the time that the students can first make a basic distinction between the world as observed and the world as conceived. The students of this age are not ready for a philosophical exploration of the foundations of knowledge, but it is appropriate to make a distinction between what one actually sees (smells, hears, and so forth) and the feelings and thoughts that arise from these sensations. Again, the teacher does not have to go into a deep philosophical discussion with the students but instead can simply point out the distinction within the context of comments made by students in the class.

The pedagogical importance of helping a young adolescent see the difference between sensations and feelings or thoughts is probably apparent. Here the science lesson presents an opportunity to properly balance the strong feeling life of the early teenager, without resorting to any moralizing.

It is important to be clear about how one might deliver a lesson using a phenomenological approach. First, with little to no introduction, the class is brought into an environment in which the phenomena that are to be discussed the following day are observed. There need be no elaborate scientific setup and, in fact, by bringing the lesson out of regularly encountered environments, the students can develop a sense for how the phenomena in question relate to the world at large.

As the activity or process unfolds, the students should be encouraged to observe the phenomena as fully as possible with minimal prodding from the teacher to "look at this" or "did you hear that?" At

the same time, the students should be discouraged from communicating in any manner or asking questions out loud. Finally, when the experience or experiment has been completed, and just before the class finishes, the students can be asked to recall or remember the sequence of events. The importance of having the students live with the process (sequencing is an important tool for clear thinking) they have just observed should not be overlooked. Sometimes a teacher can leave the students with a question to consider, but the teacher should always be careful not to lead the students toward a conclusion.

On the following morning, the teacher has the students recall the demonstration from the previous day but without redoing the experiment or using the apparatus as a prop. The teacher's first request of the students should be to solicit observations without conclusions, cause or relationships. This process allows each of the students to carefully weigh and consider all of the observations without having a sense that they have to rush ahead and get "the answer" before their classmates.

Additionally, the teacher needs to be careful not to have too strong a picture of what the students, "should have observed" and what the exact wording is of "what they should conclude." If one has cultivated the right atmosphere in the class, the students will not only arrive at the observations and conclusions that were anticipated, but also often bring other observations and find additional relationships that were not intended. Again, the teacher needs to be very awake to allow for the possibility of new ways of seeing a relationship and other means of expressing a given relationship.

We want the students to experience that they are truly involved in forming the concepts and not simply trying to say "what the teacher wants me to say." Again, the relationships or concepts are only developed after all of the observations are in place. It is also important that the teacher not immediately judge a comment as "correct" or "incorrect" but, instead, allow the class to try and form the judgment of whether or not a suggested relationship offered by one of the students holds true.

In the end, the teacher must be the guide of the class, but the process does not always have to move forward because the teacher is always the first to take "the next step." In fact, the best opportunity to introduce the next demonstration or experience can often arise when a student who has just understood the previous day's material, asks a question such as, "Well if that's true, then what about. . .?" When this happens, it is usually a sign that things are going well.

approach. In this second case, the thinking becomes a process of data acquisition and accessing.

What is interesting about these two approaches is that in fact almost every new idea and invention that has arisen in science has resulted from a person consciously or unconsciously using a phenomenological approach. Often this can result unconsciously when a scientist is working with an old concept, one that has often been passed down for years, and suddenly the scientist sees something new in the phenomena. In that moment, the scientist leaves the conventional view of looking at the problem using old fixed concepts and, instead, becomes interested in some new detail and suddenly desires to “make sense” of this new situation.

This is precisely the kind of thinking that we are ultimately trying to instill in the students in a Waldorf school. It does not necessarily matter whether they are going to become scientists. The sciences give us an opportunity to develop in every student the capacity to enter a situation, take stock of it (make observations) and then make sense of the situation (find relationships and form concepts).

The Young Child

Now of course one cannot initially ask that a young child participate in such a process. To make observations, one needs to have senses that are well developed and a rich background of experience with which to make comparisons. What is more, a young child needs to experience for herself how to separate out specific sense impressions from the rich world of experiences that are possible to be perceived.

And finally, the world or sensory environment that a child does experience needs to be one in which none of the impressions are either overwhelming or too narrow in their context. To properly educate the very young child, it is not so much a question of “teaching” but rather one of ensuring that the proper environment, one that is rich in sensations and also deep in context, can occur.

Perhaps no environment can surpass nature in its richness of sensations or depth of context. Again, the key is not to teach the child to see the observations and then tell them the concept, but rather to allow this process to occur naturally while the senses of the child are developing.

Recall the example given at the beginning of this essay concerning a sheep. Take a few moments to focus on the environment and sense impressions found on a small farm. Now, compare those to the impressions found in a checkout line at a large store or, to focus on the sheep more specifically, consider the impressions

given by an interactive computer program in which animated images of sheep move across a flat screen accompanied with corresponding digitized sounds. Which of these environments will a young child be able to “take in” and which gives the child a richer, fuller context in which to know not only an individual sheep, but the full context of forces and activities that help define how sheep “are”?

It might now be even more apparent why the classrooms for the Waldorf kindergarten students are organized in the way they are and why the activities of the morning circle and “play” are such a central part of a child’s “education.”

The Middle School Years

Skipping ahead now to the middle school students, we can see that they are definitely in a different place with respect to their individual relationships to the environment and their own self-awareness. By sixth grade the students become very observant of their surroundings. They begin to really notice all of the “odd things” about the adults in their lives and also can become self-conscious of their own outer appearance and inner feelings. It is at this time that a teacher can start working consciously with the students’ own observations, both those of the individual as well as those shared collectively by the class. The students can be shown a scene such as a sunrise and then later the teacher can ask them to recall specific observations that were made, what the order was in which they occurred and if there are any relationships (concepts) that can be found between the observations (perceptions).

For example, in the 6th grade I took the class into a small, completely dark, room and, using a high quality light dimmer, ever so slowly increased the level of illumination in the room from total darkness to incredible brilliance (we used a 500 watt bulb). This exercise was done with little talking but I was careful to increase the level of illumination in stages so that the students could really “take in” the phenomena. During the review period the next day, the students were overflowing with observations. It started with the obvious such as, “At first, I couldn’t see anything and then I saw someone’s head!” After trying to figure out whose head it was, another student offered, “Initially everything was in black and white,” while another said, “And it was also kind of ‘flat,’ two-dimensional like.”

As I slowly focused the conversation, the class began to order their perceptions and noticed that the “scene” started with little to see other than the very dim glow of the lamp. Slowly varying shades of darkness

endogenous and the area experiences high levels of innovation and high levels of new start-ups.

Florida goes further to find that the whole of today’s economy is moving toward an agglomeration style and that success today depends upon the level to which any area can master the three Ts: Technology, Talent, and Tolerance (openness to new ideas, cognitive flexibility).

Technology, of course, encompasses more than just computers and machines. The machines themselves are actually the product of the process of technology, which represents the know-how and ability to create a tangible product. Indeed, since machines like laptop computers are so cheaply and easily available, the cognitive aspects of technology are more readily apparent in the process. Technology, then, is dependent upon human cognitive capacities, as are talent and tolerance. In other words, the human being is the economic driver of the modern economy, a stark contrast to the machine-driven economy of the industrial age.

There is both good news and bad news in this realization. The good news is that an economy in which the main resources reside within individual humans should lead to a wider dispersion of economic resources. We also have an opportunity to experience a more entrepreneurial environment. As owner of his or her own cognitive assets, everyone is an entrepreneur. The bad news comes from the flip side of the same argument. Since we can’t directly transfer today’s economic assets without teaching and experience, society cannot simply hand economic success to its children. Instead, we must help them to develop their own human capacities. It should be noted that the United States is quickly slipping from its leadership of the creative economy and that its “innovative infrastructure” is decaying.

Creative Capacities

Let’s take a closer look at the capacities that workers in today’s and tomorrow’s creative economy will need to develop in order to succeed. Of course, in a creative economy, they will need the capacity of creativity: the ability to create value from the combination of human ingenuity and raw materials. While parts of the new economy are making use of artistic creativity, the underlying skills are those of creative problem solving and innovation in general. Levy and Murnane see it as the ability to solve a problem that has not yet been solved, which includes the ability to think flexibly about technical problems, social problems, and all manner of other problems. But

the capacity of creativity also includes the ability to run the entire creative process from idea generation to, potentially, the formation of a tangible product. In this use of the term, thinking, feeling, and willing, qualities well known to Waldorf educators, are all necessary components.

Because they will be plying their own human assets in their entrepreneurial endeavors, today’s children will need to know how to make full use of their human assets. In other words, they will need to know themselves. To make money from something as simple as a machine requires an understanding of how the machine works. The same is true of our own human resources when we put those resources to the money-making tasks in our lives. Included in this capacity is the ability to know one’s skills and interests, the ability to muster the self-confidence needed to take a creative risk, the ability to get oneself into the high productivity state of “flow,” as psychologist Mihaly Csikszentmihalyi calls it, and much more.

We can discover additional necessary capacities by examining the form and structure of modern economies. A typical industrial- or financial-age firm is organized in a hierarchical manner, as is the industry itself. It can be charted as a pyramid, with the CEO on top and layers of increasing numbers below. Firms are connected by formal ownership, by rigid ownership-like legal agreements, or by competitors.

Agglomeration economies, like Silicon Valley, however, are organized by dynamic, flexible networks of firms and of people. They can be charted as a pattern of interconnected “players” with little or no implied hierarchy. Relationships or “soft” contracts—agreements to work things out when a disagreement arises—replace the formal ownership arrangements and exacting legal contracts used by industrial-age industries. Competition and cooperation are interspersed, with the same companies sometimes facing each other both as competitors and as partners.

In this world, relationships matter. UC Berkeley Information Management Professor AnnaLee Saxenian finds that all business in Silicon Valley flows through a rich network of people and that these relationships determine everything from new firm formation to daily work flow. In the modern economy, as a whole, relationships matter. Princeton economist Alan Blinder and his colleagues find that eighty-five percent of nonfarm goods and services are sold to people with whom the firm has an ongoing relationship. Since a firm is not a person, these relationships must be managed by the people within the firm.

Relationships Matter

The formation of London’s St Luke’s advertising agency is a case in point. In 1995, Omnicon bought the advertising agency of Chiat/Day. Fearing layoffs, the people of Chiat/Day’s London office did not want to be under Omnicon’s control. En masse, the employees quit Chiat/Day and started a new company, St Luke’s, which maintained all previous client relationships and operated just as it had under the Chiat/Day name, leaving Omnicon holding an empty bag. Omnicon may have owned the “company,” but the employees owned the relationships with the clients. The company’s entire value was stored in the client relationships.

Relationships matter not just because the economy is structured by levels of relationships among firms, but because the primary economic assets reside within individuals. Before an innovation becomes a marketable product, it is an idea that lives within the mind of the innovator. Few ideas get to market without the help of other ideas. This means that the people holding correlative ideas must work together in order to create tangible products. Relationships and interpersonal cooperation are part and parcel of the creative economy.

The emphasis on relationships brings to light another necessary capacity. In an economy in which relationships and “soft” contracts replace exacting legal obligations, trust and trustworthiness become essential. If Chiat/Day’s employees had trusted Omnicon not to implement mass layoffs, they would not have left Omnicon with an expensive empty shell of a company. A reputation for trustworthiness is an important asset in the creative economy. Developing such a reputation requires the ability to act with responsibility and with a sense of ethics. I call this capacity virtue, although many other terms could be used.

Success, then, in the type of economy toward which we are moving and that today’s children will experience, depends upon the capacities of creativity, self-knowledge, social skills, and virtue, however labeled. The main point is that today’s children will need to succeed on the terms of entrepreneurs and not as laborers. There is evidence to suggest that these skills, or something akin to them, have always been necessary for success. We are, however, coming, in the mainstream, to an increased understanding of their importance.

Downsides

While I have so far painted a fairly rosy picture of the creative economy, we should note that there are

downsides to this change. I have worked in the bastions of both industrial capitalism—Wall Street—and the creative economy—Silicon Valley. In every manner, I experienced Silicon Valley as a place more supportive of human beings and of human ideals, as well as a more enjoyable and more egalitarian place to work. Working in the Valley, however, was no walk in the park. Hours were long, high levels of responsibility were expected, and I would not have survived without a continually fueled inner drive.

In general, in the creative economy individual markets and firms are notoriously unstable, even as the system itself remains stable. For those who do not manage personal change well, the level of flexibility required by the creative age may bring about nostalgia for the industrial age. Further, while the cooperative nature of creative age markets does ease competition, this can be a double-edged sword. With a minor decrease in competitiveness, there is more room for everyone to breathe and plenty of room for cooperation. But, if easing competitiveness goes unchecked, we can easily find a single firm dominating an entire market, a situation that rings of exploitation, not of freedom.

Most important, even though there is clearly a push toward a more human-focused economy, the dehumanizing forces that took hold during the industrial age are far from banished. As during any change, a careful eye on the direction of the change and a strong participative hand are needed to ensure that the creative economy lives up to its more humanizing potential.

We can take heart, however, from the understanding that, increasingly, parents will face less pressure to socialize their children to fit into a dehumanizing system and will be increasingly interested in finding an education system that emphasizes fuller human capacities like creativity, cognitive flexibility, social skills, and the will force of an entrepreneur. Waldorf education, with its foundations in the entrepreneurial environment of Steiner’s envisaged threefold social organism, has long been prepared for this challenge.

JUDY LUBIN holds a Ph.D. in economic theory from the University of Chicago. Her research focuses on the structure and organization of firms, markets, and employment in a post-industrial economy. She is also an active parent volunteer at the Chicago Waldorf School.

A full edition of this abbreviated paper and all footnotes can be found in Research Bulletin · Volume 12 · #1

rate and furthermore, that the rate of acceleration was constant. This example is often used in the 10th grade Waldorf physics block in the study of mechanics.

Another clear example advocating for an experiential approach can be found in da Vinci’s notebook in which he describes the difficulties he had with the scholars of his day. In da Vinci’s time (about 1500), much of the scholarly debate in universities focused on how to interpret the work left by the “Masters” rather than an individual inquiry into the phenomena of the world. This of course was at odds with da Vinci’s own process of keen observation. In *The Notebooks of Leonardo da Vinci* as translated by Edward McCurdy (Reynal & Hitchcock, New York, 1938), the first entry reads:

If indeed I have no power to quote from authors as they (i.e., the scholars) have, it is a far bigger and more worthy thing to read by the light of experience, which is the instructress of their masters. They strut about puffed up and pompous, decked out and adorned not with their own labors but by those of others, and they will not even allow me my own. And if they despise me who am an inventor, how much more should blame be given to themselves, who are not inventors but trumpeters and reciters of the work of others.

Consciously observing the phenomena of the world: This is the starting point for the middle school science curriculum.

The Approach

A phenomenological approach to science begins with the premise that all empirical knowledge must start with sensory impressions. Every concept we form, be it in science or everyday life, must be based ultimately upon sense impressions or a combination of sense impressions and other concepts. Initially we can think of these sense impressions as the basic senses we use every day such as sight, sound, taste, touch and smell. In time we may become conscious of other sense impressions, for example our senses of motion, balance, thoughts, and so forth.

The foundations for such an approach to an understanding of the world was outlined in depth by Rudolf Steiner, the founder of Waldorf educational methods, in his book *The Philosophy of Freedom* or *Intuitive Thinking as a Spiritual Path*. One of the central themes in this book might be outlined in the following manner.

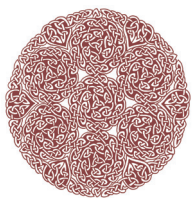
When we experience a new or unfamiliar environment for the first time, we choose specific observations to focus on and then mentally remove these details from the whole of the environment in which we are observing. There are myriad choices of possible observations but we can focus on only a finite number at any time. Having decided to focus on specific observations, we then find relationships or order within these observations. Relationships also appear between the observations that have been separated and the whole environment from which they were removed. Initially, one can think of the observations as sense-based perceptions and the relationships as thought-based conceptions. Later on, when the capacity to distinguish between perceptions and conceptions is more clearly developed, one can also take thought as the basis of perceptions as well.

The fascinating part of the process outlined above is that the activity of looking for the relationships between the perceptions is not a linear one nor one that can be arrived at through logic. The process of finding the relationship for the “first time” is often referred to as intuition. Intuition is the process by which one first has an insight into a conceptual framework that can unite a given set of perceptions or a set of perceptions with other concepts. This is the “aha” or “eureka” experience of the scientist, inventor, artist or investigator.

In that moment a new relationship is seen and it is then and only then that logic can be rightly applied to determine if the relationship will hold true in the context of the other relationships that are known. This process of looking for a relationship among phenomena is the true activity of thinking. Thinking is not simply the recollection of previously known facts.

And herein lies the biggest distinction between a phenomenological educational approach to science and a more conventional educational approach. In a phenomenological approach, one strives to give the students an experience of the phenomena and then have them wrestle with finding relationships or order. This process actually cultivates the true powers and capacities necessary for thinking. Here thinking becomes an activity, a verb, something that is dynamic and living.

In a more conventional approach, the laws or relationships are given initially and then the student is guided through a proof of why they hold true. In this second approach, the students do not need to utilize their own thinking capacities since they simply need to follow a logical argument rather than have an insight themselves as required in the phenomenological



WHAT IS PHENOMENOLOGY?

by

Michael J. D'Aleo

Introduction

I recall standing in the checkout line at a large store a few years ago. There were still a couple of people in front of me who were paying for their purchases when a woman came up behind me with her approximately three-year-old child. The woman first glanced at the long line and then noticed a simple child's puzzle near the checkout. The simple puzzle had three or four wooden cutouts that fit nicely into the flat piece of wood from which they had been cut. Each piece was cut in the shape of a barnyard animal and was painted appropriately. "Look," the woman said to the child, "This is a sheep!" With this exclamation she removed a particular piece of wood that was shaped and painted in the outline of a sheep.

Immediately, I saw a problem. "That's not a sheep," I thought to myself. "That's only a cutout piece of wood painted to represent a sheep. A sheep is much larger, has a particular smell, makes a very characteristic sound, its body is covered with a very unusual material that feels soft, often oily and leaves a funny scent and taste on your hand. Have you ever helped someone try and catch some sheep or helped to shear them? Sheep are fast, skittish, they can jump. ... These animals have many unusual ways of behaving. ... This is only a part of my experience of sheep. Please, take the child somewhere where he can have an experience of sheep!"

I never said anything to the woman or her child, but this moment makes clear what the distinction between a concept that is given and one that arises out of actual sense experiences.

Having a young child of my own, I sympathized with the plight of the woman and her child. The checkout lines in many stores are often designed to overwhelm you as each item competes for your attention and interest. As an adult, we can develop the capacities to ignore or "tune out" the myriad

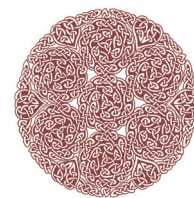
impressions that bombard us in such an environment; a child cannot. However, without careful discrimination we as adults can just as easily begin to "tune out" the many other sense impressions in our world. When this happens, we can begin to sense that our life has become a routine in which we are simply going through the motions, that we have lost our connection to not only the world but also ourselves.

A Brief Historical Context

Many teachers, parents and perhaps older students may have heard that Waldorf education encourages the use of a phenomenological approach to science. While even saying the word "phenomenological" can be difficult for a person encountering it for the first time, there is even less familiarity with the meaning of the word and its relation to the approach to science advocated by many Waldorf schools. In fact, phenomenology does not have its origin in Waldorf education, but instead, the roots of phenomenology can be traced back to European continental philosophy of the late 17th and early 18th centuries. While many people familiar with Waldorf schools may know that Goethe (1749–1832) and Steiner (1861–1925) advocated such an approach, there were parallel efforts by Alexander Gottlieb Baumgarten (1714–1762), Johannes Mueller (1801–1858) and Edmund Husserl (1859–1938).

Additionally, in reading any of the writings of the great historical scientists, one finds repeated references to a process that can be described as seeing a "pattern or lawfulness" in observations that had not been seen before or had simply been overlooked by others. Examples of this can be found in the notebooks of Leonardo da Vinci, the dialogues of Galileo Galilei and the notebooks of Johannes Kepler. In each of these cases, a deeper understanding of a given set of phenomena is reached not by accepting the work of their predecessors, but instead, by looking again at the phenomena described by others and then "seeing something new."

For example, in Galileo's time (early 1600s) the commonly accepted view of objects that fall "naturally" (simply dropped) was that a heavier object would fall faster than a lighter one. By carefully reviewing the argument that was made to support this view, Galileo noticed an inconsistency in the argument. Through a combination of intuitions, thought experiments and actual demonstrations, he was able to conclude that all "heavy" objects (ignoring feathers, dust, etc.) would fall through the same distance in the same time, that each object's speed (velocity) would increase at the same



SHAKESPEARE AND THE ELEVENTH GRADER: A MATCH MADE IN HEAVEN

by David Mitchell

As a Waldorf high school teacher, you can observe a distinct change of mood in the students after they have passed from their sophomore to their junior year. This mood change is evident in a more inward, contained, self-aware composure. The transition is subtle but significant. It could also be characterized as a move to a more mature form of thinking. The eleventh grader has acquired the capacity to form an internal space for reflection. In the previous two years in high school, they were vacillating between inner and outer. Now they have the ability both to hold and to create experiences within the confines of their own soul life. The eleventh grader asks many questions about life. Curiously, most of these questions begin with the word "Why?"

William Shakespeare also frequently asked this kind of question. He was able to look behind the gossamer veils of everyday reality and, through drama, to portray intense inner struggles dealing with passion, thinking, death, life, and the entire gamut of human emotions. He can be viewed as the herald of modern self consciousness.

An intense study of Shakespeare for eleventh graders can deepen their self knowledge, help them to understand life, and enrich their souls through the beauty of his art. It allows students, at a time when their self awareness is still fragile, to look at sensitive and perhaps intimidating personal issues through the characters in the plays. Also, a skillful teacher can use Shakespeare to exercise the students' power of analytical thinking. Finally, the study of Shakespeare can help students become more aware of their own humanity. As they explore the influence of sin and virtue in Shakespeare's heroes, observe that happiness is dependent on the control of the passions, and see that knowledge is gained by living a humane, moral, and "mannerly" life, they learn valuable lessons for living. Shakespeare's characters demonstrate that goodness of thought, if constantly cultivated, will become a habit.

There are challenges for the teacher, though. The class may be apathetic at the outset. They will find Shakespeare's language awkward and, on first reading, often hard to understand. The students may be resistant and question the relevance of studying the works of a man who lived four hundred years ago.

Begin the first lesson by arousing interest through a discussion of language. You can ask the class how many words they think they use in their daily vocabulary. Common words such as *people*, *three*, *the*, *funny*, *run*, *chair*, *book*, and *school* are given as examples. There is always a wide range of guesses, and the students are surprised to learn that a well-read person in today's society knows about 6000 words. Then you can point out that this is about 2000 words less than it was at the turn of the century, before electronic media, when people read much more.

Now introduce the students to the biography of Shakespeare and his time. Shakespeare lived from 1564–1616. At that time, speech and poetry played a different role in people's lives than they do today. Not yet embalmed in dictionaries, language and speech were alive and expressed not only thoughts but also feelings of the heart. And poetry, revered as the language of the angels, was a part of everyday life. Still possessing the warmth of feeling of medieval times, Shakespeare's audience was able to receive poetry in a different way than we do today.

In Shakespeare's day, the period of the "High Renaissance," the English Empire was expanding around the globe. England was emerging as Europe's dominant political force, and English was becoming the "world" language. Shakespeare wrote 36 plays, 154 sonnets, and various longer poems. In his work, he introduced 9000 *new words* into the English language, more than all the other English poets combined. Shakespeare coined such common words as *critic*, *disheartened*, *advantageous*, *radiant*, *generous*, *obscene*, *pious*, and *dwindle*. He took slang words and moved them into common usage: *fireworks*, *hubbub*, *jitterbug*, *exciting*, *hectic*, *bogus*, *striptease*, and *clumsy*. He put words together into phrases that we use today, such as: *a tower of strength*, *zoot suit*, *sit down strike*, *whodunit*, *milk of human kindness*, and *boom and bust*.

Shakespeare was a verbal genius with a profound sympathy for the human condition. He was a man of keen humor and great sweetness of mind, who turned every sentence he wrote into a melody. Computers estimate that Shakespeare had an active vocabulary of over 25,000 words. He refers to over 100 species of birds and over 150 varieties of plants in his plays. Usually, this introduction awakens the

students' interest and convinces them that the study of Shakespeare is something important for them.

The study of Shakespeare includes, of course, the study of the world in which he lived. Life in Elizabethan England was rich and exciting. Explorers were returning from newly discovered lands with exotic beasts and strangely dressed natives. At one time, the Tower of London housed a giraffe, a rhinoceros, and a kangaroo! Street life was a carnival. Walking over London Bridge, you might come across a flame swallower, a bear on a chain going to the bear baitings, a crocodile on a tether, cocks fighting in a rope ring, or gymnasts leaping through the air.

The theater was a place of gay and abundant entertainment where this rich life was concentrated. A theater-goer might spend three hours dressing for the occasion, putting on a powdered wig, a ruff or starched collar, elaborately polished boots or shoes with gold buckles, a farthingale or wide hoop skirt with a wire cage beneath (often weighing thirty pounds or so), plus layers of chiffon and lace. The clothes were of rich colors and heavily embroidered, often with silver or gold thread, and sewn with jewels. Since hats were worn both indoors and out, a hat, perhaps of fantastical shape, would be part of the theater-goer's attire. Courtiers wore their fortunes on their backs and went to the theater to see and to be seen, as well as to watch the play. Living was a spectator sport!

Shakespeare wrote in this milieu. He wrote first to entertain but also to stimulate the mind. Behind his work lies a deep study of humankind and the issues of human life. He understood that to the Elizabethans a thought was not an abstraction; it was an experience.

The eleventh grade Shakespeare block (meeting for ninety minutes a day for about three weeks) begins, as I teach it, with the study of about twenty of the more well known speeches: Hamlet's "To Be or Not To Be," Romeo's "Thus with a Kiss I Die," "Such Stuff as Dreams are Made of" from *The Tempest*, et al. Most students have encountered these speeches before. We take turns, reading the speeches aloud. We analyze them and become familiar with Shakespeare's modes of expression.

With this background and with the students' interest aroused, we now plunge into one of the plays. There are many levels of Shakespeare's work. There are the comedies, the tragedies, the histories, and the four "resurrection plays" written at the end of his life.

I like to begin with an earthy romance, such as *The Taming of the Shrew*. This play really appeals to adolescents and allows for a deep discussion of interpersonal relationships, a part of life students at

this age are struggling to understand and explore. I use The Folger Library's General Shakespeare Reader series. Its side page explanations, pronunciation guides, introductions and critical essays are all excellent.

Parts are assigned, and we read the play out loud, relishing the battles of the sexes that take place and being tickled by the turns of speech. We discuss the intentions of Petruccio and the hardness of Katarina. We listen to tape recordings of accomplished actors and take note of their inflection, their voice modulation, and their rendering of the puns, conceits, asides, and double entendres. The students take the play home to reread it, to "mine" for words and phrases of importance to be noted and presented to the class the next day.

After reading the play, we start asking "why" questions. Why did Petruccio come to Padua? Why did Kate act so brutishly to her suitors? Why did Bianca's personality change after marriage? Why do we judge people on first meeting? Why must we find some way to bring the polarities of masculine and feminine together so that humanity can evolve?

Aristotle said, "The greatest thing by far is to be master of the metaphor. It is the sign of original genius and implies intuitive perception." We look for metaphors and similes in the play and practice writing our own.

We then read "The Doctrine of the Humours" by Dr. William Harvey, a contemporary of Shakespeare. Harvey's discovery of the circulation of blood was instrumental in changing the practice and theory of medicine. Before Harvey, medicine was based on the belief that there are four bodily "humors" or fluids which determine a person's temperament. Many of Shakespeare's characters have an excess of one humor or another and thus have a clear and particular personality or temperament. Harvey's paper helps the students to understand a belief commonly held in the High Renaissance and to recognize "types" of personalities.

I then choose a play according to the nature and needs of the class. Among the plays we commonly work with are: *The Merchant of Venice*, *Hamlet*, *Othello*, *Macbeth*, *Romeo and Juliet*, *The Tempest*, and *The Winter's Tale*. The play chosen is carefully worked through. We act it out. We analyze it. We "mine" it for striking words, phrases, and speeches. Each play provides a theme for an essay.

We look at the structure of the play and at poetic meter. We start with iambic pentameter. Ten students are called to the front to represent the ten syllables in a line. The first person bends over and acts weak, the next stands straight and strong, and so on down the line, weak and strong alternating. A line is read by the group, with the strong "performing" the accent. Next, they are

paired up in the buddy system, and we discover we have five iambic feet. When the strong syllable precedes the weak, we have a trochee. The important thing is to let the students act it out, to let them experience it in action. Then they will remember it with their entire being.

Finally, the last day of the block approaches. We have had many different experiences with the material. We have played characters and become intimate with them. We have discussed Shakespeare's idea of sin and of virtue and his comparison of death and sleep. We have constantly asked the question, "Who is (Wo) Man?" We have touched on the many aspects of Shakespeare's genius—his understanding of people, his skill with words, his sense of drama, and his ability to please his audience.

Now I ask the class to suggest a word that expresses the deepest level of human connection. The word *love* is frequently suggested. I ask the students to describe what they love, and I write down their replies on the blackboard. The list may read: "I love my girlfriend (or boyfriend), my mom, my dog, peanut butter and jelly sandwiches, walking barefoot on the beach, having my back scratched," and so forth.

Immediately we begin to see the problem. In English, the word "love" has many different connotations. Because the junior year is one in which we often have exchanges from Waldorf schools in other parts of the world, I might ask the Norwegian student how they say "love." The word is *elsker*. "I love you" is *Jeg elsker deg*. The word relates only to a human being. You cannot *elsker* a peanut butter and jelly sandwich! We also look at the German word *Liebe*, the French *amour*, and the Spanish *amor*. Each has its own uniqueness and possesses a certain vagueness.

Then we reflect that our study was the "rebirth" of the great cultures of classical Greece and Rome. We find that the Greeks have four words for love: *agape*, *phili*os, *eros*, and *storgé*. *Agape* refers to spiritual love, one's love for humanity (a totally outward, giving to others type of love); *phili*os is brotherly love, the love of a friend or colleague of either sex; *eros* is erotic or passionate love between two people (a totally inward, taking for oneself type of love); *storgé* is the love of a parent for a child or a child for a teacher.

Every eleventh grader is willing to discuss "love" in its various forms. We discuss these realities for a time as they exist in our own lives. Then we return to Shakespeare and analyze King Lear's relationship with Cordelia, Desdemona's with Othello, Romeo's with Juliet, Petruccio's with Kate, et al. We see that we understand the nature of the human being only when we understand love. And we can only truly love when

we understand, and to understand, one must use one's thinking.

In this way, we are able to go below the surface of Shakespeare's works; each student is able to sound the depths of his soul. We wrestle with feelings and thoughts and questions about life that are as real as when Shakespeare depicted them in drama over four hundred years ago.

During Elizabethan times, the human being was thought to be a battleground where an ever changing, constant battle between good and evil is being fought. The deeds and sufferings of the soul are a path of development. The Renaissance man felt that we come to earth in order to meet difficulties that we cannot meet in Heaven. We overcome these difficulties, not by escaping or avoiding them, but by confronting and penetrating them. This is how we grow. Shakespeare wasn't simply concerned with plots; he was interested in how human souls interact and how they metamorphose.

The poet Robert Browning said, "When the fight begins within a man, then he's worth something." And Rudolf Steiner said, "If more people would take up the inner battle, then outer battles would be less likely to occur." By now, the students realize that behind Shakespeare's drama is a profound understanding of life and that each of us needs, in his own way, to engage in the inner struggle for personal development.

There was more than human personality working in Shakespeare. There was the spirit of the whole of human evolution working within him. When the eleventh grader encounters the study of Shakespeare at the correct time in his development, there can be a profound effect: an appreciation of literature and philosophy; a sense of the complexity of the human psyche; a beginning understanding of one's self; and a capacity to analyze oneself, human life, and the world—all these can emerge. Tools of comprehension can be developed and inner pictures built up that will provide strength throughout life. Such are the goals of Waldorf education.

DAVID MITCHELL is the Chairman of Publications for the Association of Waldorf Schools of North America (AWSNA) and is Co-Director of the Research Institute for Waldorf Education. A past member of the U.S. Department of Education's Private School Leadership Committee, he has been a Waldorf teacher for 40 years—as a class teacher for grades 1–8, as a high school teacher of life sciences, literature, woodwork, blacksmithing, and copper chasing. He is an adjunct professor in education at Antioch University. The Amgen Corporation honored him by selecting him as one of the top two teachers (K–12) in Colorado in 1997.
