



Technology and the Consciousness Soul

Ideas for Educators of the New Generation

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In this article I look at the development of technology and the Consciousness Soul in relation to the question of freedom and the future. I have chosen certain images, not for their own purpose but as illustrations of symptoms that point to transcendent realities working in and through them.

In his book *The Third Wave*,¹ written towards the end of the twentieth century, the futurologist Alvin Toffler describes how, for five thousand years and more, technology had no widespread impact on human life. Of course, there were technical inventions, but they did not significantly change our lifestyle and culture. To be sure, we know that during times of war, the ancient Greeks employed technical inventions such as burning projectiles that they lobbed into the vessels of their enemies in order to set fire to their sails. But when war ended, so did the use of these pyrotechnics. In other words, if you picture the historical timeline of technology as a function of daily life, that timeline remains pretty flat until the 18th century.

With the advent of the Industrial Revolution, suddenly technological inventions are introduced to society that radically change daily life and the formation of society. In just a few years a new underclass, the proletariat, arises in Britain; mass poverty grips English society as a result of the steam engine, which assumes the human tasks of pumping water out of the mines, driving the machinery of the textile industry (the “Spinning Jenny”), and opening the doors to mass production. Soon thereafter come the steam locomotive and the railways. We cannot describe the history of the U.S. without acknowledging

the influence of the railway tracks that, like long spindly fingers, stretched across the American continent toward the West, following the fleeing buffalo and Native Americans. A few years later came the internal combustion engine (the “Otto motor”) and the Diesel engine, two inventions that dramatically changed the landscape of Europe and America.

Toffler names these industrial changes the “first wave,” in which physical energy, the power of human muscles and human work, is replaced by machines. Soon thereafter comes essentially a second Industrial Revolution, but we do not use that name. With the harnessing of electric

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energy, we soon enter the age of the telegraph and later the telephone, telex, radio, and finally television. By this point, mass production is already the norm and nearly the whole world has changed its face through the introduction and

use of electricity. Toffler names these electronic influences the “second wave,” stating that its impact was felt less upon our physical energy and more upon our communication skills.

Communication became machine driven—as we see it today in what we call “social media.”²

Then Toffler, writing in 1980, predicted that, after this second wave, a third wave would emerge to replace our human intelligence with mechanized intelligence. And indeed, the computerization of our society in the late eighties and early nineties of the last century has brought us to a lifestyle today in which computers are a normal part of our life.

Toffler also predicted that the rate of these developments would speed up, getting faster and faster, to the point where we would be asking

ourselves, Where will this end? Indeed, based on Toffler's work, we may ask ourselves, Will there be a fourth wave?

Before addressing this question, I would like to spool back to the endpoint in the flat timeline of technology when a huge spike in this line can be observed—a spike as high and as sudden as the Rocky Mountains suddenly jutting out from the vast expanse of the plains of the American Midwest. Is it possible to understand the source of this eruption?

The Poor Chicken

At the beginning of what historians call the Age of Enlightenment, a leading scientist of his day put a timepiece on a piece of wood, grasped a chicken in his left hand and, with an axe in his right hand, cut off the head of this animal, then watched his timepiece to see how long this animal would flutter around before it died.

Later he wrote that he would stretch Mother Nature on the rack and torture her secrets from her. In this brutal scene, we witness the birth of empiricism, in which nature became the object of a new kind of research. This research limited itself to those aspects of the natural world—namely its physical or material elements—that we can see and measure and from which we can draw conclusions through what is called an inductive method. This scientist strove strictly to separate himself as an individual and objective researcher from the object of his research. For him, the two had nothing in common. Today we honor him as the father of modern empirical science and as the pioneer of its method. His main scientific opus is entitled *Novum Organum Scientiarum*.

This empiricist was Francis Bacon, later Lord Bacon of Verulam, Lord Chancellor to the English royal court, and a high-ranking philosopher of the British Renaissance (1561–1626). Following years of research he wrote a novel in which he sketched a world of prosperity and peace in which people lived under the wise counsel of a Rosicrucian Leadership that guided society according to the rules of this new science. The book was *Nova*

Atlantis, the first Utopia. Bacon died at the age of 65 as a consequence of one of his experiments: He wanted to know how ice could preserve meat, but caught a cold during his research and died of pneumonia. History is unclear whether he retained contacts with Rosicrucians on the European continent. But according to Rudolf Steiner, Bacon had an important mission to fulfill that was inspired by Christian Rosenkretz, just as Shakespeare and Rembrandt had, too.³

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I would now like to take a leap forward of 362 years to 1988, when, two years before his death and sick with leukemia, the American psychologist B.F. Skinner was sitting at his desk in the cellar of his home at Harvard and writing his last book.

As the inventor of programmed learning, programmed instruction, and the teaching machine, Skinner was world famous as an articulate spokesman for Behaviorism. Based on his famous lab experiments with pigeons and rats, among other creatures, he concluded that human behavior can be trained and by means of a very basic system of stimulus and response. Through this insight he developed a form of operative conditioning of human beings, intellectual but also social. He claimed that, using this method, it would be possible to condition humans to behave in socially desired ways. These ideas he had woven many years earlier into his first novel, entitled *Walden Two*—again, a Utopia. But he could not answer a basic question: Who should decide which behaviors would be the most appropriate. And now he sat at his desk to write his last thoughts. The title of his last and dark vision of the future was *Beyond Freedom and Dignity*. For this negative Utopia he was heavily criticized by Noam Chomsky, who, like other former students of Skinner, felt uneasy in the presence of Skinner and his ideas.

But in Skinner we see finally how the scientific method of empiricism targets the nature of the human being. The soul becomes defined

as mechanical. In modern thinking everything on earth, in heaven, and in man is understood this way. Life processes, as well as social processes, are understood to be mechanical processes.

Since image-producing methods in neuroscience and psychology became popular at the end of the last century, since the unraveling of the human genome, the scientific method that started with Bacon has finally overwhelmed all disciplines in human biology and medicine.

The movement for humane psychology, initiated by Carl Rogers⁴ in the 1980s, was virtually forgotten by the turn of the century twenty years later. In 2002 the *American Review of General Psychology* declared

Skinner the most important psychologist of the 20th century, even ahead Freud, Jung, Piaget, and Adler.

Although the universities and their departments of philosophy continue to say that science, by definition, embraces a variety of theories, the dominant and undisputed approach is that of empiricism, or positivism, in nearly all subjects. Especially in the medical field but also in the arena of education, empirical scientific technology is mainstream.

Indeed, between the times of Lord Bacon and B.F. Skinner, step by step the scientific approach has come closer and closer to the realm of technology. Today technology and this form of science are seen as being identical. Science and technology have become an inseparable pair. (In the meantime they have developed a menage a trois, with economics or business as the third partner.)

Intelligence and the Individual

In art history it is well known that before the Renaissance it is hard to identify the names of great artists. Who designed the huge French cathedrals? Who built them? Who were the artists who made the marvelous stained glass windows in these houses of worship? Do

we know the names of the designers of the patrician villas in Rome, with their floor heating and running water? Who invented the hot-air heating in these houses? In Rome there were hundreds of artists creating wall paintings and sculptures inside and outside the houses of the wealthy. Going even further back, who designed the Greek temples, the Egyptian pyramids, and most remarkably, who were the technicians who actually built them or who erected such simple things as the obelisks?

We know that we don't know, since all of these artistic and scientific works were completed anonymously. (There are a few exceptions, of

course, in the works of Homer, Aristotle, Plato, Aeschylus, and a few others.)

Why is this the case? Could it be that during these ancient times the individual did not experience himself in his work as an individual? Is it possible that these masterpieces of art,

construction, and design were not seen as the work of an individual person but as an expression of something else?

Rudolf Steiner expressed the idea that, in medieval times and before, the act of intellectual activity was experienced as a gift from outside. Ideas were believed to be not produced by man himself but as an inspiration from out of the spiritual world that came to manifestation in the mind or artistic creation of the individual thinker or artist. Not "I think," but "it thinks in me" was, according to Steiner, the general attitude and feeling.

And it was again Steiner who stated that from the 15th century on, step by step, this attitude was replaced by the experience, "I think. My thought is me." From there to "my brain thinks" is a small yet significant further step. It is the transition from inspirational thinking to brain-based thinking, or, in other words, from the brain as receiver to the brain as producer.⁵

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For educators it is so important just to think this thought, just to realize there was a time, not so long ago, when man was not identified by his or her intellectual performance, but by what he or she did.

We live in the 21st century in the hypertrophy of intellectualism. Man is judged by intellectual performance, and its worth is measured and rewarded by a paycheck. The whole educational system depends on this modern (and false) premise. Every day now we see on TV and read in the newspapers that the world is depending less on human intellect and increasingly on other external powers, powers of artificial intelligence—and these are mostly powers of destruction.

Manufactured Intelligence and Inspiration

The wonderful thing about anthroposophy is that it widens our horizons into greater and greater perspectives. One of these perspectives is Steiner's idea of the Consciousness Soul. What does he mean by this soul? He is referring here to the capacity of each mature human being to use our individual intellectual powers in service to what our conscience says we must do. This is the step in development from what Steiner calls the Intellectual (or Mind) Soul to the Consciousness Soul. The task of the Intellectual Soul is to exercise the abstract thinking capacity and to make mankind ready to receive the intellect as an individual gift and tool. By contrast, the task of the Consciousness Soul (or conscience soul) is to use the intellect in a way we could call "responsibility for humanity." This enormous step in evolution began in the 15th century and it will need several hundred years more to mature completely.

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What Happens to Inspiration (and Intuition)?

The best way to answer the question, "What happens to inspiration or intuition?" is to follow the explanations Steiner gave. As we have seen, intelligence was once understood as a capacity flowing into the human being from outside. Steiner called it a cosmic force; this cosmic force was given from the power of a cosmic being. Steiner identified that being as the one known in the Christian tradition as the Archangel Michael. Steiner continued to use this name. Cosmic intelligence was once held by Michael and was distributed to those who needed it. Steiner once spoke of Michael as the fiery-thought-king who in his evolution was seen (in the stories of the Old Testament) as the face of Jahve and in the New Testament as the face of Christ. The meaning of his name is a question: Who is like God?

It is not easy to feel and find words for the cosmic drama that unfolded as, step by step, the reins over intelligence slipped from the grip of Michael into the hands of human beings.

Humanity was just starting to develop the Consciousness Soul in order to be able to hold that great power of intelligence.⁶

About fifty years ago human beings began to have the capacity to know that their powers of the intellect could either create or destroy our world. This is the responsibility of the newly developing Consciousness Soul. Why is this? It is because a part of the destiny of our evolution is freedom. And freedom exists only if there are choices. Now, science and technology can either destroy or build and develop our physical substance and the substance of our earth.

The same possibility will happen soon with the human soul as bearer of the "Human Identity." In Europe, an advertisement in the newspaper *Neue Züricher Zeitung* by the

electronic firm ABB shows a nice young lady sitting at a lab table, and next to her a two-armed robot. The text reads: “ABB develops the ‘you.me’ technology. You (being the robot) and me (being the young lady).” And then follows this sentence:

The Fourth Industrial Revolution has started. We see in this ad the integration of machines into the human being. The human intelligence alone is no longer adequate or advanced enough and must incorporate the robot’s intelligence into her work. The implication is that the intelligence of combining human and machine capacity engenders “The Fourth Industrial Revolution.”

Does this make sense to us? Is this our future? Life is now all about these questions. In fact it is the question of the future of our intelligence, of the intellectual capacities in man.

In education it is now normal to say we live in a society of the intellect—everything is about the intellect and the highest possible achievements there. This is what brings the individual to being recognized as the best possible member of society.

We can look at this from a different perspective and say, “Intellectual development is only one aspect of society. Other aspects are those dealing with emotions, dealing with actions and physical work, dealing with moral dilemmas and challenges, dealing with social life as such. If all these other aspects were directed solely by our intellect, we would end with B.F. Skinner’s idea of a future society.” That is the reason Rudolf Steiner repeatedly emphasized do not let the intellect develop alone! Give it a lifelong companionship of human feelings.⁷ Or, as he stated it in another context, educate in a way that hearts start to think.⁸

This would be a genuinely new kind of thinking, the new intellect: a thought life that is

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always accompanied by the qualities of the heart. (Here *heart* is used as a metaphor that indicates and includes a morally guided feeling life.) If that would happen, it would change the intellect’s perspective of the future. This perspective, as it is now, has this design: An isolated intellect in man thinks it works for the good when in fact it produces various forms of evil. Isolated intellectual activity produces evil while convincing itself it is working for the better, for the good.

In this battle in which we are engaged nowadays, we see this force of the intellect in technology, in politics, in trade treaties, in the world of agriculture. Most currents in education today appear designed to prepare new generations for a life ruled by the isolated intellect.

The Answer of Education

It should be the mission of modern education to develop the intellectual powers ever in connection with other capacities of the becoming

human being. From Howard Gardner we know that there are many more “intelligences” than the intellectual.⁹ With the image-making tool available for research in neuroscience, the fMRI, we know that when children are engaged in an artistic activity, all parts of the

brain are also engaged and “lit up.” It is not so difficult to design a curriculum that is oriented to develop the whole human being, as well as the whole brain. The achievements of such schools as Waldorf (or Steiner) schools show that this is an option that already exists.

A new challenge in education is to find ways to develop in our youngsters an awareness of the ways in which scientific technology can creep into the smallest corners of their individual lives, turning them to objects for public consumption.

In North America there is a good program that offers to develop such an awareness, including helpful practices for young people. It should be taught in all practical skills classes [Ed. comment: This is a term used in European Waldorf schools for which we do not have an equivalent in North America] in the upper elementary and high school grades. This course is called Cyber Civics, a program that helps “students wisely and confidently use electronic technologies and social media.”

Recently the British government commissioned research about the influence of social media on the wellbeing of children and young people, “Resilience for the Digital World: Research into children and young people’s social and emotional wellbeing online.” (Young Minds eNewsletter and Ecories). The programs developed from this research could be used in Waldorf schools, perhaps not at the early age that the research reports advise, but certainly from sixth grade on. They can also inspire Waldorf teachers to develop variations of these curricula, always following the idea that the human being is in command of his/her (technological) helpers, and that electronic devices are tools, not commanders. This is not at all a soft or sentimental subject, especially if one recognizes the devastating effects that habits of addiction have on children and adolescents. We have a growing body of evidence that documents levels of implicit or hidden addiction in the use of these technological tools, even among adults.

Steiner advised high school teachers to devote at least one hour a week, starting in tenth grade, to the theme of technology. If we understand well the times in which we live, we could imagine that, from the sixth grade on, elementary schools could establish a weekly hour for the practical study of the most helpful and responsible uses of electronic devices and media. Students would be taught to use electronic tools

and sources in a meaningful, responsible way, just as they have to learn to ride a bike and to drive a car. The key in teaching these classes on technologies would be to anchor them within the context of meaning and human relationships.

Summary

Rudolf Steiner’s *Anthroposophical Leading Thoughts* (GA 26, 2002), which summarizes the results of Spiritual Science, concludes, not

by coincidence, precisely with these questions about the relationship of man to technology. And we understand that this is precisely because *Leading Thoughts* ends with the future, our future. Perhaps it could be meaningful then to

end this short overview with just these important (and prophetic) thoughts:

“183. In the age of Natural Science, since about the middle of the nineteenth century, the civilized activities of mankind are gradually sliding downward, not only into the lowest regions of Nature, but even beneath Nature. Technical Science and Industry have entered sub-nature.”

In other comments, Steiner defines forces of magnetism and electricity as coming from below the earth’s surface—sub-earthly forces. He goes on to explain these are more difficult for us to manage than substances and forces that we use from the earth’s surface. Hence his next thought:

“184. This makes it urgent for man to find in conscious experience a knowledge of the Spirit, wherein he will rise as high above Nature as in sub-natural technical activities he sinks beneath her. He will thus create within him the inner strength not to go under.

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“185. A past conception of Nature still bore within it the Spirit with which the source of all human evolution is connected. By degrees, this Spirit vanished altogether from man’s theory of Nature. The purely Ahrimanic spirit has entered in its place, and passed from theory of Nature into the technical civilization of mankind.”

Those who study anthroposophy understand Ahriman as a higher spiritual entity who works to lead human evolution downward, away from the maximum development of individuality and individual freedom. This engendered Steiner’s vision of an education designed to balance this “Ahrimanic spirit” with a human spirit re-connected to Nature, strong enough to utilize the high intelligence of Ahriman and mindful enough to cultivate warmth of heart and “heart intelligence.”

ENDNOTES

1. Alvin Toffler (1928–2016). Two of his books are important in the context of this article, *The Future Shock* and *The Third Wave*.
2. There is a certain gesture in the fact that at Michaelmas, 1879, the first electric streetlights lit up Times Square in the heart of New York City.
3. Rudolf Steiner, “Man, being, spirit, soul,” 3rd lecture, *The Science of Spirit and Modern Soul*.
4. Carl Rogers, (1902–1987). Famous psychotherapist, professor at University of California Berkeley. He stated that without empathy the doctor-client relation would not work. See: *Counseling and Psychotherapy*.
5. Within this context we can understand that Steiner criticized Descartes and his famous quote, “Cogito ergo sum,” “I think, therefore I am.” Steiner bluntly asked, “And when man sleeps, he does not exist because he does not think?” Steiner in *Study of Man*, second lecture, August 22, 1919.
6. Rudolf Steiner, *Anthroposophical leading thoughts*, (GA 26) The experiences of Michael in the course of his cosmic mission.
7. Recommend further reading: Steiner’s lectures (GA 177) on “The Fall and the Spirits of Darkness.”
8. Steiner, op.cit., “At the Dawn of the Michael Age.”
9. Howard Gardner (2006). *Multiple intelligences*. New Horizons, completely revised edition.

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