

Hans Christian Andersen, ‘Poetry’s California,’ and Scientific Optimism

by Michelle Rasmussen

If children today were told that a beloved writer of fantasy stories and fairy tales was also the friend and collaborator of one of the world’s greatest scientists, what would they expect the outcome to be? Perhaps a new video-game that combines fantasy with sci-fi and the latest “cool” technology?

The mind of the Danish storyteller Hans Christian Andersen, whose stories are known the world over, points our way to a totally different conception: that science is “Poetry’s California” (referring to the Gold Rush of 1848-55), offering both the poet and the scientist a path to the future. If our society is to escape the stranglehold of the past—its web of speculative debt leading to economic collapse, and geopolitical power games leading to war—we must cast off the shroud of cultural pessimism, the anti-science, anti-growth ideology, and replace it with cultural and scientific optimism.

To aid us in our quest, let Hans Christian Andersen be our guide.

But first, let us make a detour to visit Lyndon LaRouche. The centerpiece of LaRouche’s economic thought is that human creativity is the source of progress. Scientific and artistic discovery are the two inseparable, interwoven domains most reflective of the human ability to create new ideas—the realm of the imagination. Making the possible actual—transforming our spiritual thoughts into material progress—in turn, creates the conditions to develop our entire population’s creative abilities.

LaRouche stresses that mankind is the only species that reflects the Creator’s ability to look into the future. On the one side, we see the present from the eyes of the future. What do we need to discover in order to get to that future place we imagine? And, on the other side, what will enable us to imagine the future realiza-

tion of the discoveries of the present?

The future lives in the imagination—it is here we must seek it. Now, let Hans Christian Andersen take us there.

Andersen Meets Ørsted

In the wake of Denmark’s 1813 state bankruptcy, a group of brilliant artists and scientists created a Golden Age. A significant role was played by the collaboration between Hans Christian Ørsted (1777-1851), the discoverer of electromagnetism, and a young, creative, poetic soul, whose fairy tales would become an immortal contribution to world literature, Hans Christian Andersen (1805-1875).¹

Ørsted was convinced that scientific discovery could and should be a subject of poetical expression. In Andersen, Ørsted found his instrument to accomplish that, infusing the younger man with scientific and technological optimism as a wellspring of poetical inspiration. And, as a guidepost, Ørsted wrote in Andersen’s album:

“Reason within Reason = the Truth;

“Reason within the Will = the Good;

“Reason within the Imagination = the Beautiful.”²

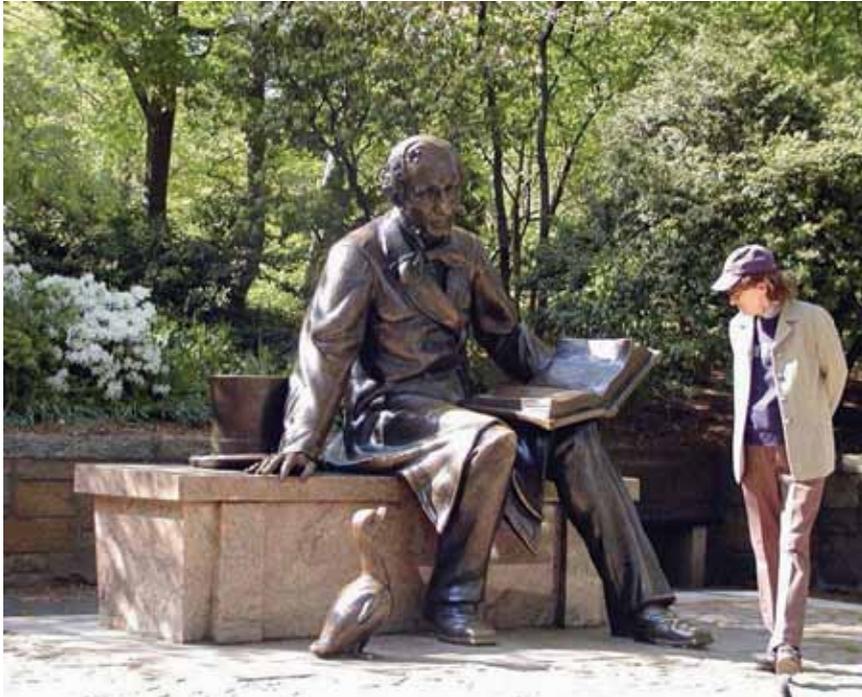
Could the poet combine the True, the Good, and the Beautiful?

Andersen’s fairy tales, Ørsted thought, could “build a bridge for the people between art and science. Between belief and knowledge.”³

1. See Tom Gillesberg, “Lesson for Copenhagen Today: Hans Christian Ørsted’s Scientific Method,” *21st Century Science & Technology*, Fall 2009.

2. April 21, 1833. *H.C. Andersen’s Album*, translated by Tom Gillesberg.

3. Jens Andersen, *Andersen, en biografi* (Copenhagen: Gyldendal, 2003), Vol. II, p. 145.



Wikimedia Commons

Statue of Hans Christian Andersen (with the Ugly Duckling) in New York's Central Park. The artist was Georg John Lober.

Ørsted's and Andersen's goal was to raise the scientific, cultural, intellectual, moral, and social level of society. Andersen's role model for this was Friedrich Schiller,⁴ whose life's work is a call for the aesthetical education of man. Beauty ennobles people's emotions, enabling them to rule themselves. Thus, science could not only inspire the poet, but the poet could also spread his enthusiasm for science to the people, ennobling their powers of reason. Ørsted infected Andersen not only with the excitement of his 1820 discovery of electromagnetism, but with the whole world of science, their close relationship beginning soon after Andersen's 1819 arrival in Copenhagen, at the age of 14.

Andersen's letters, diaries, and autobiographical writings, reveal his enthusiasm for the new technological age of the steam engine, electromagnetism, the "universal, timeless beauty"⁵ of industrial machinery, railroads, the telegraph, hot-air balloons, etc. These new technologies not only sparked a passionate joy in man's ability to discover new physical principles and

4. Andersen was fond of saying that he was born the same year that Schiller died, in 1805, and sought to carry on Schiller's tradition.

5. Jens Andersen, op. cit. (footnote 3), p. 141.

inventions, but also a devotional wonder at the Creator of these natural laws.

He witnessed a demonstration of the telegraph, during which the first lines of one of his early poems, written in Elsinore, were sent to him by operators in that town; he wrote of the experience that he felt as if he were "under the beating wings of an infinitely powerful spirit."⁶ And listen to the retrospective description of his first ride on a railroad, written in 1842: "Oh, such a masterpiece of the spirit is this production! One feels so powerful, like an ancient sorcerer! We hitch our magic horse to the wagon, and space disappears; we fly like the clouds in a storm, like the flight of migratory birds! Our wild horse snorts and snuffs, the black steam rises from his nostrils."⁷

Andersen writes that in the land of poetry, the truths foretold by human reason must go hand-in-hand with the emotions and fantasy: Reason "preaches the eternal Truth, and therein lies greatness and poetry!"⁸

Here, in the link between reason and poetry, we see the glimmer of gold in what Andersen would later call "Poetry's California." In a polemic against the Danish

6. Letter to Carsten Hauch, June 3, 1853. He added: "During the past few years, I have become so very interested in science. I am convinced that had I been as aware of its magnificence twenty years ago, as I am now, I would probably have taken an avenue in life other than the one I now follow, or rather; I would have attained knowledge within such fields, that my authorship would have blossomed quite differently than is now the case. You can understand how your picture of Robert Fulton [inventor of the steamboat] has occupied me, his endeavor, his struggle, his happiness." From the original Danish and an edited [translation](#).

7. *A Poet's Bazaar* (1842), chapter on "Railroads."

8. "I can remember only a few times in my life that I felt as moved as I was on this railroad journey: thus with all my thoughts, it seemed like I beheld God face-to-face. I felt a devotion, as I have only felt as a child in church, and when older, in the Sun-illuminated forest, or on a dead-calm sea during a starlit night. In the realm of poetry, Feeling and Imagination are not the only ones that reign: they have a brother equally powerful; he is called Reason: he proclaims the eternal truth, and that is where greatness and poetry reside." Edited from the online [English version](#).

poet B.S. Ingemann's rejection of the importance of the material world for poetry, Andersen wrote that the age of discovery would not only give birth to the material, but that the material was "the necessary foundation for the spiritual, providing great branches upon which poetry may blossom."⁹

Andersen wrote a review of Ørsted's lecture on the telegraph at the Polytechnic College in 1839, published in *The Copenhagen Post*,¹⁰ and a cantata for the Scandinavian Science Researcher's last meeting in 1840. He also penned what is probably the only verse version of the Pythagorean theorem, in *The Eternal Magic of Shape: A Poetical Make-Believe*. And he met leading European scientists on his many travels.¹¹ Andersen's scientific and technological optimism shines through many of his fairy tales.¹² Read "Thousands of Years from Now" (a trip from America to Europe "on wings of steam"), "The Drop of Water" (the fascinating microscopic world), "The Bell" (about Andersen and Ørsted), "The Galoshes of Fortune" (with a discussion of the speed of light and electricity), "The Great Sea Serpent" (the laying of the trans-Atlantic telegraph cable), "Great-Grandfather" (on the telegraph, where Ørsted appears), "The Stone of the Wise Man" (on Truth, the Good, and the Beautiful), and others. (You might also read "The Old Church Bell," Andersen's fairy tale about Friedrich Schiller, written for the 100th anniversary of Schiller's birth.)

These stories, are a great antidote for today's zero-growth ideology!

Andersen's Manifesto

Now, I want to point the reader in the direction of two lesser-known works, which serve as a manifesto of Andersen's scientific outlook—a peek into the principles behind his fairy tales. The first are the chapters "Belief and Science: The Sermon about Nature" and

9. From a [letter](#) to Henriette Wulff, June 5, 1853: "Each day I have a minor dispute with Ingemann about the significance of inventions, as he values poetry higher than science, which I do not. He admits that ours is the great age of inventions, but only at a mechanical level, a material level; I consider this to be the necessary foundation for the spiritual, providing great branches upon which poetry may blossom."

10. Jens Andersen, op. cit. (footnote 3), Vol. 1, p. 105.

11. Including French physicist Dominique Arago, Swedish chemist Jacob J. Berzelius, German chemist Justus von Liebig, and German geographer and naturalist Alexander von Humboldt.

12. Most are available in English at: http://www.andersen.sdu.dk/vaerk/hersholt/index_e.html

"Poetry's California," from the book *Pictures of Sweden*,¹³ written as Andersen read the proofs of Ørsted's *The Spirit in Nature* in 1850, which Ørsted completed just before his death. (Andersen notes that reading Ørsted's book had slowed down his literary productivity, because he was spending so much time reading scientific books.)¹⁴ The other is his novel *To Be, or Not To Be*,¹⁵ written seven years later.

A central idea in both is the tension between belief and science. Andersen's solution is to look at scientific discovery as a way to reveal God's creative powers, where belief and science form a more elevated synthesis,¹⁶ as Ørsted argued in *The Spirit in Nature* (though with a less personal God).

In "Poetry's California," Andersen touts science as a lamp lighting the way to the future, held high by the poet, "the light-bearer for times and generations." After an allegory attacking superstition and the Romantic movement, he writes:

Yes, Poetry's California lies in science! . . . It is not our intention that the poet shall versify scientific discoveries. The didactic poem is, and will be, in its best form, always just a mechanical doll, which does not have the freshness of life. The sunlight of science must penetrate the poet; he must perceive truth and harmony in the small, and in the immensely great, with a clear eye: it must purify and enrich the understanding and imagination, and show him new forms which will animate his words even more. Even single discoveries will cause new flight. What fairy tales the world can unfold under the microscope, when we transfer our human world thereto! Electromagnetism can be the thread of life for new comedies and novels; and how many humorous compositions will spring forth, as we, from our grain of dust, our little Earth,

13. In English at: <http://www.gutenberg.org/files/12313/12313-h/12313-h.htm>

14. *The Spirit in Nature* "has awakened a desire to immerse myself in science, and during the recent period, I have read a lot in that direction, which has partially interrupted my productivity," quoted in Jens Andersen, op. cit. (footnote 3), Vol. 2.

15. In English: <http://archive.org/details/tobeornottobean00andegoog>

16. As Andersen wrote in a letter to Henriette Wulff from 1855, "For me, Science exactly illuminates the divine revelation. . . . Our Lord can certainly bear to be seen with the healthy reason he gave us." *H. Topsøe-Jensen in Fund og Forskning*, IX, 167.

with its little haughty beings, look out into the endless universe, from Milky Way to Milky Way!¹⁷

The infinite amount of wonders that science will dig up, is a creative source even greater than the poet's own fantasy. Carrying the lamp of poetry—the heart of the poet—a new Aladdin will enter the cavern of science, he writes, and emerge with treasures to build poetry's new castle. Light and truth in everything created radiates with even more divine clarity. Follow the new Aladdin, and with he who sings the beauty of truth, wander through Poetry's California.¹⁸

The key to unleashing the creative potential of the poet, is to overcome the artificial dichotomy between art and science, and in reuniting them, to enable the herald of the future to trumpet the most advanced notions of man, the universe, and God, as Andersen's fellow poet Percy Bysshe Shelley called for in his "In Defence of Poetry."

To Be, or Not To Be

"To be, or not to be: that is the question," says Shakespeare's Hamlet. "To be, or not to be," asks Niels Bryde in Andersen's novel about the tension between science and belief, centered on the concept of immortality. In it, Andersen wanted to fight against the materialistic view that all is matter, divorced from spirit. Bryde is born under the stars, in the apartment sitting atop the Round Tower in Copenhagen, just below its astronomical observatory. He dreams of travelling to the Moon, though he is told it will take a hundred years to get there. Conflict and ironic juxtaposition develop between the scientific and materialistic views Niels is exposed to—science detached from God; and the strict, biblical-based beliefs of his adopted family: God without science. A developing philosophical dialogue between Niels and Esther, a Jewish girl who is in the process of becoming a Chris-



Hans Christian Ørsted, the scientist who discovered electromagnetism, was the mentor and friend of Hans Christian Andersen.

tian, including about Goethe's *Faust*, becomes the vehicle for Andersen's discussion of science, and immortality.

One important concept in the discussions, which LaRouche's latest writings have also emphasized, is the tension between the sensual world and reason. Is reality only what we register through our senses? Or, is it in the spiritual world, the world of ideas, that we find the more fundamental principles behind the mere shadows of the sensual world? Do we look at the world piecemeal, in the here and now? Or, do we look at the whole, future-oriented, intentional developing process? Apart from the brain, is there a soul in which the creative processes occur, the influence of which reaches beyond the grave?

Here are just two examples of the scientific visions of the future presented in the novel—the first, a foretaste of the Schiller Institute's development plan for Southwest Asia:

"It is the age of vicissitude," said Esther. "Mankind has obtained power over the elements. The Sahara Desert will soon be turned into a lake; I read lately that an engineer has proposed to allow the Mediterranean Sea, which lies higher, to stream in over the widely stretched sandy desert, and then steamboats will soon be flying across that desert, where the bones of camels and caravan travelers lie hidden."

"This will take place," said Niels Bryde, "or else, by boring far down, they will force gushing springs to go through the layer of sand; oasis after oasis will then arise around these springs, and extend themselves more and more, until the desert shall become a blooming plain."

As Niels moves from science to science with belief, and Esther from belief to belief with science, love blossoms, pointing Niels in the direction of immortality.

In a third philosophical work, *The Muse of the New Century*, written in 1861, Andersen deepens his thoughts about the poetical spirit of the coming age.

17. Edited from this chapter in English at: <http://www.readbookonline.net/readOnline/40044/> The whole book in English: <http://www.gutenberg.org/ebooks/12313>

18. <http://www.readbookonline.net/readOnline/40044/>

Linking the muse of the future with the next technological era, he writes, as if pre-announcing the completion of the Eurasian Land-Bridge:

And when will the fullness of time have come? It is long for us, who are still behind here; it is short for those who flew on ahead. Soon the Chinese Wall will fall; the railways of Europe reach the secluded cultures of Asia—the two streams of culture meet!

The Portal to the Future

Since the advent of the '68er counterculture, too many have become infected by the pessimistic, misanthropic image of man that lies at the root of both the radical and soft varieties of the Green ideology. "The world has too many people! There are limited resources! Windmills instead of nuclear power! We have to crawl backwards in time, not run forwards!" cries the crowd.

Reviving Andersen's positive image of man's creativity, which enables him to find the keys to the prob-

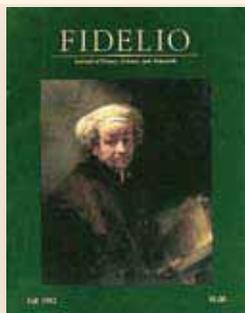
lems of the future, is needed now more than ever. Over the portal to the future, there is written: "Let no one who rejects scientific and technological progress enter."¹⁹ If we forfeit that, we sign our own doom. Instead, let Denmark honor the spirit of Andersen, by calling the first maglev train across the Kattegat,²⁰ "Hans Christian Andersen," and the first Danish mission to the Moon, "Niels Bryde."

As Einstein's violin was an integral part of his creative process, so was the inspiration of scientific and technological progress for Andersen. Here, in the mutual inspiration between science and culture, we have a treasure map which can lead to a Golden Age such as man has never seen.

For more, see www.Schillerinsitut.dk/drupal/hca

19. Over the entry to Plato's Academy was written, "Let no one unversed in geometry enter."

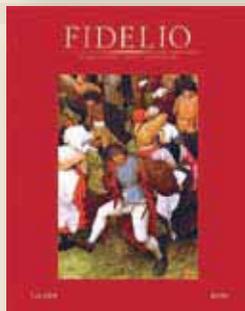
20. The body of water separating the island of Zealand upon which Copenhagen is located, and Denmark's second largest city Aarhus, on the Danish Jutland mainland. Over such a connection, one could travel between the two cities in 25 minutes. This project is a cornerstone of the Schiller Institute's programmatic work in Denmark.



FIDELIO

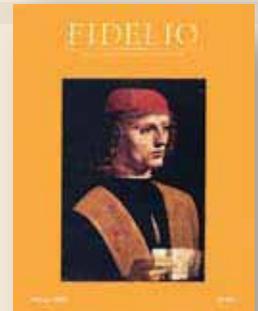
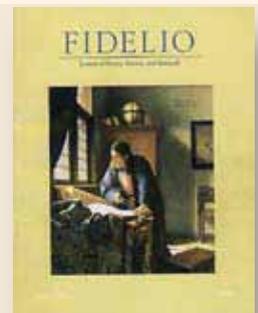
Journal of Poetry, Science, and Statecraft

From the first issue, dated Winter 1992, featuring Lyndon LaRouche on "The Science of Music: The Solution to Plato's Paradox of 'The One and the Many,'" to the final issue of Spring/Summer 2006, a "Symposium on Edgar Allan Poe and the Spirit of the American Revolution," *Fidelio* magazine gave voice to the Schiller Institute's intention to create a new Golden Renaissance.



The title of the magazine, is taken from Beethoven's great opera, which celebrates the struggle for political freedom over tyranny. *Fidelio* was founded at the time that LaRouche and several of his close associates were unjustly imprisoned, as was the opera's Florestan, whose character was based on the American Revolutionary hero, the French General, Marquis de Lafayette.

Each issue of *Fidelio*, throughout its 14-year lifespan, remained faithful to its initial commitment, and offered original writings by LaRouche and his associates, on matters of, what the poet Percy Byssche Shelley identified as, "profound and impassioned conceptions respecting man and nature."



Back issues are now available for purchase through the Schiller Institute website:

http://www.schillerinstitute.org/about/order_form.html