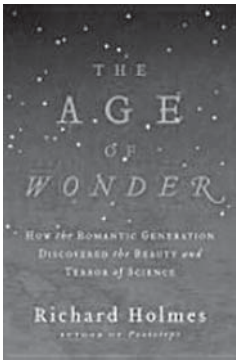
Review of *The Age of Wonder* by Richard Holmes

by Dorit Winter

Richard Holmes has written a book that can serve Waldorf teachers as a model for scintillating biography. From it we can learn how to integrate the life of the character into the context of his time, how to find the telling detail, how to stitch the research into a seamless whole, and, perhaps most enviably, how to weave the lives of the characters into a fabric that gives rise to the signature pattern of an age. But then, Richard Holmes is a much-lauded biographer. He has taken biography and biographical research to a whole new level. For although his research is academically impeccable, what interests him as biographer is the possibility of making the life of the subject experiential for the reader. Holmes relies on word-picture and story, and he relishes the function of imagination in bringing his subjects to life. He would have made a terrific class teacher.



So, for the Waldorf teacher, there is, first of all, the sheer exhilaration of marvelous story telling. There is also the story itself, which is the dawn of the era in which science and scientist were finally prized apart, surely a topic of compelling interest for any Waldorf teacher. It is the story of how the "scientific method," i.e. reproducible results under laboratory conditions, became the radically new yardstick. For the early "scientists"—the word first emerges on page 450 of the story[1]—involvement, passion, conviction, enthusiasm, and their own personal discernment were still the measure by which they worked. Their biographies and their achievements are indistinguishable. Thus Holmes's story provides a brilliantly detailed exposition of the final, dramatic, and inexorable moment before the modern mindset, epitomized by Darwin, took hold. Lastly, the story of the *Age of Wonder* allows the author, a prize-winning scholar of Romantic poetry, to explore the qualities, the nuanced implications of the imaginative leaps, the search for Imaginative Truth, which the early scientists attempted. Holmes's own poetic sensibility,[2] so firmly rooted in scholarship, has led his inquiries into the sources of imagination, whether among the poets or among the scientists, to the edge of spiritual science.

Holmes, who was born in 1945, wrote his first prize-winning biography, *Shelley: The Pursuit*,[3] in 1974. But then, tellingly, he wrote *Footsteps, Adventures of a Romantic Biographer*, in which he literally tracks a number of writers and poets across the landscapes of Europe and Great Britain. The name Holmes has attached to these physical methods—his attempts to go where his subjects have been and to do what they have done—is "footstepping!" Holmes had tentatively begun footstepping in the late 1960s with inquiries into Stevenson, Mary Wollstonecraft and Chatterton. But it was in the writing of the Shelley biography that he adopted its principles in earnest and completely gave himself up to the book to the point of sleeping on an army camp bed "as if I were on a military campaign." [4]

In *Footsteps*, Holmes writes a "biography of biography." He is already watching himself as he treks through the physical and emotional landscapes of his subject. This consciousness soul awareness reaches a high point in his masterful two-volume biography of Coleridge,[5] in which Holmes does justice to one of the most underrated thinkers of modern times.

It is a brilliant, evocative and extremely perceptive and discerning book, much more than a biography. It is a treatise on a power of observation comparable to Leonardo's. What Coleridge actually noticed was life itself, life as in life force.

And Holmes, like Owen Barfield,[6] recognizes this singular contribution. Holmes is, clearly, conscious of consciousness. After reading these two volumes about Coleridge, I wrote a piece about Coleridge's Imagination. Yes, with a capital "I".[7] In that article I pointed out that Holmes is actually tracking the growth of Coleridge's imagination into Imagination. And, while doing so, Holmes is watching his own consciousness as it accompanies the shift in Coleridge's consciousness of consciousness. As the previously quoted review of *Age of Wonder* notes:

> Holmes has written about how "empathy is the most powerful, the most necessary, and the most deceptive of all biographical emotions." But for him, biography has always been a "personal adventure of exploration and pursuit," and it is in this spirit that he has entered the world of 18th-century science.[8]

Indeed, it is the controversial "empathy" which makes Holmes's biographies such masterpieces of Waldorf presentation. Needless to say, Holmes has as many pages as he wants, and a main lesson, or even a sequence of them, is time-bound, so Holmes can afford as many details and as much narrative as he wishes, whereas the teacher needs to be more concise. Nevertheless, the choice of Holmes's details is exemplary, his choice always in the service of the bigger picture, in this case, nothing less than the era in which science, as such, originated in the context of Romantic idealism. Again, it serves our purpose to quote Holmes:

> But the generation I've written about genuinely wanted to explain their ideas to a larger audience. They don't just publish papers, they give interviews and they give lectures. They also mixed with artists and thinkers and they talked together and argued and got excited about things. In so doing they junked the notion of the two cultures, and the work of these scientists fitted in remarkably well with my previous work on Romanticism.[9]

Because Holmes is so expertly rooted in the Romantic "artists and thinkers," he effortlessly embeds the rise of science in contemporary culture. Holmes is keen to show us the biographical (we might say "karmic") connections between the great poets, whom he knows so well, and the early men and women of the new science. Thus, allusions to the Romantic poets abound. Here are a couple:

> Quoting Byron: The Night is also a religious concern; and even more so, when I viewed the Moon and Stars through Herschel's telescope, and saw that they were worlds.[10]

Or on Keats' celebrated sonnet "On First Looking into Chapman's Homer," in which the poet compares himself to the explorer, Cortez:
Keats likens his own discovery of Homer's poetry to the experience of the great astronomer and the great explorer finding new worlds. Physical vision —one might say scientific vision—brings about a metaphysical shift in the observer's view of reality as a whole. The geography of the earth, or the structure of the solar system, are in an instant utterly changed, and forever. The explorer, the scientific observer, the literary reader, experience the Sublime: a moment of revelation into the idea of the unbounded, the infinite.[11]

The subtitle of the book is *How the Romantic Generation Discovered the Beauty and Terror of Science.* A list of chapter titles will provide the main cast of characters. Possible main lesson topics for which these chapters could provide lively details are suggested in parentheses.

1. Joseph Banks in Paradise (7th grade explorers; 8th grade geography)
2. Herschel on the Moon (6th grade astronomy, 7th grade exploration/astronomy, 7th grade physics, 8th grade industrial revolution/ invention)
3. Balloonists in Heaven (6th, 7th, or 8th grade geography/cartography, 7th or 8th grade chemistry)
4. Herschel Among the Stars (see 2) (also: high school 12th grade: philosophy or Transcendentalism)
5. Mungo Park in Africa (8th grade geography/ cartography)
6. Davy on the Gas (7th or 8th grade chemistry, 8th grade biography)
7. Dr. Frankenstein and the Soul (8th grade short story but more likely high school literature)
8. Davy and the Lamp (6th grade geology, 7th or 8th grade chemistry)
9. Sorcerer and Apprentice (high school history of science)
10. Young Scientists (high school history of science)

The book in its entirety could profitably be taken up in high school, in the context of the study of biography as a literary form or as part of the Romantic Poetry block. It would make fine background reading for a study of the Transcendentalists. Chapters 8, 9, and 10 could inspire high school physics; chapters 6 and 8 would make fine background reading for high school chemistry, as would 9, which is principally about Faraday. Because the book goes into considerable detail about the construction and invention of apparati (William Herschel's forty-foot reflector telescope and the "Davy Lamp" stand out) as part of the achievement of the inventors, *The Age of Wonder* is a must have for any background reading to the history of science. There is so much excitement in these descriptions, any teacher would have to get enthused.

Although their names don't appear in the list of chapter titles, several women, in particular William Herschel's younger sister Caroline, are finely portrayed. Holmes has a knack for bringing all the characters to life, but his "empathy" for Caroline's position provides us with a previously unsung heroine and a very dramatic story. Mary Shelley is also given her due as a writer of great prescience. Her *Frankenstein* is raised from cliché to literary and contemporary cultural achievement.

The book is written by a born writer, with a writer's gift for framing the thought or the picture in captivating prose. Not for nothing has Holmes been recognized by many prestigious prizes.[12] But it is grounded in thorough scholarship, and the Cast List, Bibliography, and References at the end of the book are useful.

It would be a grave act of omission on my part were I not to point out the obvious, namely, that *The Age of Wonder* is a cornucopia of stories tailor-made for the 7th grade main lesson on Wish, Wonder and Surprise. Or, as I point out in my "little green book,"[13] *Wonder, Wish and Surprise*, better called simply Language Arts or Creative Writing. Wonder, as the threshold between the subjective and the objective, is exactly what "The Art and Science of Teaching Composition" is about. It brings many anthroposophical concepts to bear on that threshold between subjective and objective, where the 7th grader is so casually teetering. In his introduction, which begins with the magnetic words, "In my first chemistry class, at the age of fourteen, I successfully precipitated a single crystal of mineral salts,"[14] Holmes sums it all up: "Romanticism as a cultural force is generally regarded as intensely hostile to science, its ideal of subjectivity eternally opposed to that of scientific objectivity. But I do not believe this was always the case, or that the terms are so mutually exclusive. The notion of wonder seems to be something that once united them, and can still do so. In effect there

is Romantic science in the same sense that there is Romantic poetry, and often for the same enduring reasons."[15]

A couple of Holmes' examples can illustrate that unity.

> The early astronauts [balloonists] suddenly saw the earth as a giant organism, mysteriously patterned and unfolding, like a living creature. (p.161)

> It [Herschel's paper, 'Astronomical Observations relating to the Construction of the Heavens'] presented the universe as a living, growing, organic entity, with all nebulae belonging to one enormous extended family! Above all, Herschel's studies of nebulae and the general 'construction of the Heavens' demonstrated how Copernicus' rejection of an earth-centred universe had long been superseded by contemporary science. Not only a sun-centred galaxy, but even a cosmos centred on the Milky Way itself, had to be rejected. This implies an enormous psychological, even spiritual shift in outlook. (p. 205)

The final chapters of the book meticulously trace the evolution of consciousness of the premier scientist of his day, Humphrey Davy, who, after a brilliant career, ended his days in solitude and ill health. He kept journals. He wrote. And Holmes follows Davy's mind as it begins to float out past the conventional barriers of sense-bound phenomena. This was the very threshold which Coleridge, as Holmes well knows, confronted, and so what Coleridge thought and what Humphrey thought are tracked in consort. Davy and Coleridge were friends (a story in itself, as Holmes makes clear). Davy was a poet as well as man of science; Coleridge, the great poet, felt himself to be, more and more, a man of science. Men of enormous intellect and highly individualistic modes of thought, they each found their way to a similar, and eventually disparaged, position in the great Vitalism debate which ushered in the starkly materialistic view of life in which we find ourselves today. "Was the eel nature's voltaic battery, and did it hold a clue to Vitalism?—a question which would come to haunt Davy." (p.356) "Coleridge's position remained that the 'life principle' certainly did exist, but had nothing to do with physiology." (p.322) It was not "mechanistic." Says Holmes of Coleridge: "He felt that the new poetry and the new science were so closely entwined that they must somehow merge!" p.274) While of Davy Holmes reports:

> Davy also referred frequently in his later lectures to comparisons between the poetic and the scientific imagination. In 1807 he wrote in terms that would be echoed both by Coleridge and by Keats: "The perception of truth is almost as simple a feeling as the perception of beauty; and the genius of Newton, of Shakespeare, of Michael Angelo, and of Handel are not very remote in character from each other. Imagination, as well as the reason, is necessary to perfection in the philosophic mind. A rapidity of combination, a power of perceiving analogies and of comparing them by facts, is the creative source of discovery." (p.276)

Isn't this a fine rendering of two of the tenets of Waldorf pedagogy, namely, to perceive through analogy and to clothe science in beauty?

Holmes, with his exquisite two-volume biography of Coleridge, his poetic sensibility, and his thrill at the rise of science through such men as Davy, a genius of early chemistry, appreciates the resonances, we might say, the karma between the two:

> Davy's notebooks for this period also suggest a new pattern of philosophical speculation, almost approaching German *Naturphilosophie*. Some of his observations would have been recognized by Coleridge:

> "The aspirations for immortality are movements of the mind similar to those which a bird makes with its wings before they are furnished with feathers." (p.357)

As I was reading the book, it seemed to me that there were many instances in which this understanding of the oneness of art and science was Holmes's subtext, his message. What makes his message so remarkable is the scholarship by which he arrives at it. Like two of his subjects, Davy and Coleridge, Holmes himself is applying a quality of living thinking to his material. His scholarship is enlivened by Imagination, or something close to it, and that is what makes this book (like all of Holmes's biographical studies) so potent. The early scientists, whose efforts pre-dated the term "scientist," still saw the universe as One. They still could relate to "The Cosmos as Artist."[16] For them, "cosmos as artist" meant "cosmos as scientist." This awareness still fueled the "great Vitalism debate" with which the *Age of Wonder* ends.

Resources

1. "For the Romantic scientists, with a robust belief in the 'argument by Design,' there was no immediate contradiction between religion and science: rather the opposite." Richard Holmes, *The Age of Wonder* (New York: Random House, 2008; New York: Vintage Books, 2010), p. 450.
2. His first publication was a book of poetry, *One for Sorrow*, 1970.
3. Somerset Maugham Prize.
4. This article appeared on p.12 of the review section of the *Guardian* on Saturday, September 27, 2008. It was published on guardian.co.uk on Saturday, September 17, 2008.
5. Samuel Taylor Coleridge, *Early Visions*, Penguin Books, 1989; Coleridge, *Darker Reflections*, Harper Collins, 1998.
6. Owen Barfield, *What Coleridge Thought* (Middletown, CT: Wesleyan University Press, 1971).
7. Dorit Winter, "Glimmers of Truth," *The Golden Blade*, 2000 (Forest Row, England, 1999).
8. See endnote #4.
9. Ibid.
10. *Age of Wonder,* p. 205.
11. *Age of Wonder,* p. 207.
12. Holmes's major works of Romantic biography include: *Shelley: The Pursuit,* which won him the Somerset Maugham Award in 1974; *Coleridge: Early Visions*, which won him the 1989 Whitbread Book of the Year Prize (now the Costa Book Awards); *Coleridge: Darker Reflections*, the second and final volume of his Coleridge biography which won the Duff Cooper Prize and the Heinemann Award; and *Dr. Johnson and Mr. Savage*, concerning the friendship between eighteenth-century British literary figures Samuel Johnson and Richard Savage, which won the James Tait Black Prize. In 1992 he was awarded the Order of the British Empire (*Wikipedia*).
13. Dorit Winter, *The Art and Science of Teaching Composition* (Fair Oaks, CA: AWSNA, 1998).
14. *Age of Wonder*, xv.
15. *Age of Wonder*, xvi.
16. Rudolf Steiner, *Man as Symphony of the Creative Word*, CW 230 (London: Rudolf Steiner Press, 1970). See especially Lecture 1.

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