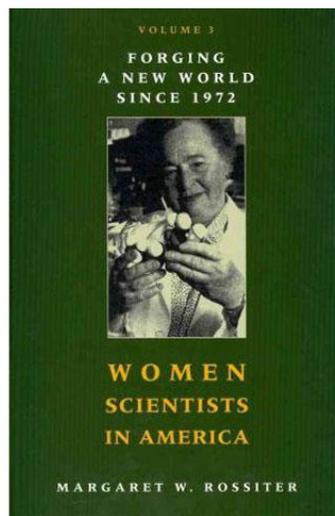
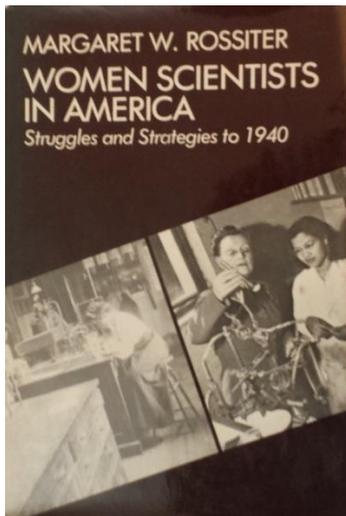


## Blog #22 The Matilda Effect: Sidelined Female Scientists

This month's *Smithsonian Magazine* (Oct. 2019) has a feature article by Susan Dominus entitled "Sidelined." Matilda Joslyn Gage is featured prominently in the article. There is a large portrait photograph of her (The same one that is on the cover of my book, *Quoting Matilda*). There is even a large color photograph of the Gage House in Fayetteville, New York, where Matilda lived for over 44 years. It is now an interactive museum.



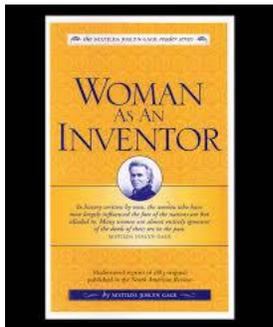
Dominus is reporting on **Margaret Rossiter**, a science historian. **She is also the one who coined "The Matilda Effect," named after Matilda Joslyn Gage, of course, to describe what happens to women scientists, inventors, etc., who don't get the credit for what they have accomplished.** Rossiter wrote an essay, "The Mathew Matilda Effect in Science." In that essay she stated: "Gage noticed that the more woman worked the more the men around her profited and the less credit she got."



Rossiter, a *professor emerita* at Cornell University, has written *Women Scientists in America: Struggles and Strategies to 1940*, a study meant to counteract the glib response of a gathering of professors in 1969 when she was only 24-years-old. In an informal gathering, she asked them, "Were there ever women scientists?" They answered with a resounding "NO!" Though someone did bring up Marie Curie's name,

they dismissed her as just being a helper to her husband, who was, they assumed, the real genius in their discovery of radium—despite the fact that Curie had won two Nobels!

Margaret Rossiter reminds me of Matilda Gage. Both searched archives and doggedly pursued the data that would prove that women's accomplishments were vast. Yes, even in the fields of science and invention. Like Gage, this uncovering of the past to dig out the real story was also Rossiter's quest. Like Gage, she investigated the systematic way that the field of science deterred women and "a chronicling of the ingenious methods that enterprising women nonetheless found to pursue the knowledge of nature." She documented their slow but determined progress toward scientific breakthroughs and inventions. She also recorded some statistics: In 1938, 13% of science PhDs were female; less than half would get postdoctoral funding. In addition, she illustrated that administrators needed to reform academic institutions to make them more hospitable to women. It certainly wasn't for lack of merit that they didn't advance.



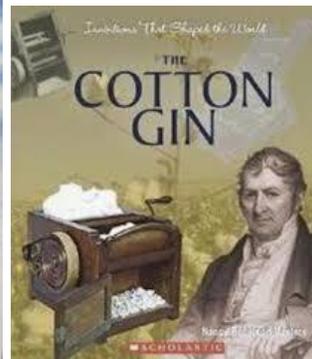
Anne Fausto-Sterling, a Brown University professor emerita and expert on developmental genetics, displayed astonishment over Rossiter's first volume. She said this about it: "It meant that I should never believe anything anybody tells me about what women did or didn't do in the past, nor should I take that as any measure of what they could do in the future." Those women back in 1870 (when Matilda published her book, *Woman as an Inventor*) were also pretty astounded to learn that many inventions purported to have been invented by men were actually conceived by women. Our Mrs. Gage had a quote about this subject, too: "*In history written by men, the women who have most largely influenced the fate of the nations are but alluded to. Many women are almost entirely ignorant of the deeds of their sex in the past.*"

As I have mentioned before, Matilda had a knack for digging up historical records and histories, even teaching herself source languages so that she could read accounts in the original. She stated in the first paragraph of her 1883 version of her lengthy article on the subject. "*No assertion in reference to woman is more common than that she possesses no inventive or mechanical genius, even the United States census failing to enumerate her among the inventors of the country. But, while such statements are carelessly or ignorantly made, tradition, history and experience alike prove her possession of these faculties in the highest degree.*"



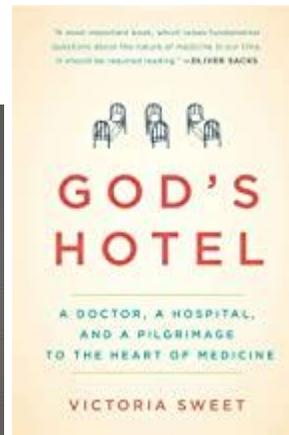
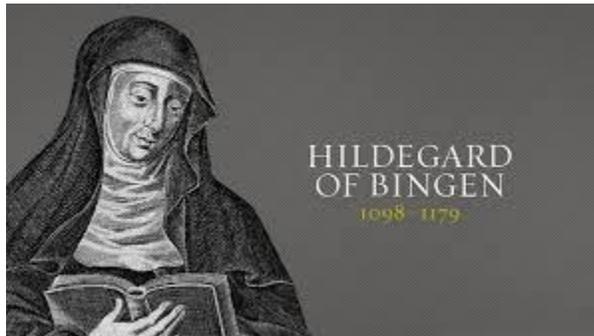
Perhaps with the resurgence of superheroes and gods and goddesses, our present generation has become aware of the many inventions attributed to Athena. But Matilda's book also spoke of Isis in Egypt (breadmaking & agriculture, flax and the arts of healing and embalming), Minerva/Athena in Greece (all kinds of tools: plow, rake, yoke and bridle to farmers; and handicrafts, especially weaving; musical instruments: flute; the very important earthen pot (and its ornamentation); also war chariots and shipbuilding. Even Surawati in India, the "Mother of the Incas" in Peru and many of the empresses of China (Yao: spinning) and the discovery of silk were included. She also did not leave out the Amazons, who were purported to have invented the javelin, shield and battle-ax.

Matilda asserts that there is no doubt that women were the originators of lace as well as many other fabrics—velvet, gauze, crepe, satin, pongee, etc. Upscale inventions included cashmere shawls and Attar, an expensive perfume.

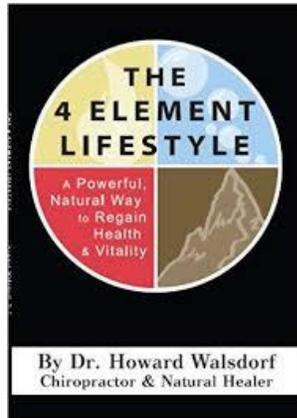


The discovery of cotton as a textile fiber was ascribed to Semiramis in the East and "The Mother of the Incas" in America. Also, in America at a much later date, the straw bonnet was manufactured in 1798 by Betsy Metcalf. Those of you reading this will be surprised to learn that it was actually a woman who invented the cotton gin. Catherine Littlefield Green, a plantation widow, conceived the cotton gin and then asked a boarder in her home, Eli Whitney, to assemble it for her. Women had a hand in inventing many other mechanical harvesters as well, though the patent was often claimed by a man. The processes of canning food, handling babies (the baby carriage), a spinning machine and rotary loom, even a self-fastening button made domestic life easier. But women were also inventors of improved war machinery, train and factory updates, and

surgical instruments. Indeed, though many a wise and talented woman was burned as a witch in earlier eras for their superior knowledge of the healing arts, they continued to contribute medicinal advances.



A heroine of mine, the German Benedictine medieval nun, writer, composer, philosopher, mystic and visionary who was considered by many to be the founder of scientific natural history, **Hildegarde de Bingen**, who wrote a medical book that is still being referred to for its wisdom of incorporating the four elements in diagnosing and curing patients, must be mentioned here. I also want to recommend a book that our Women Transcending Book Group recently read. Hildegard played a prominent role in **Victoria Sweet's** memoir ***God's Hotel: a Doctor, and a Pilgrimage to the Heart of Medicine***. Dr. Sweet discovered Hildegarde and did do a pilgrimage in Spain and Germany. She started applying Hildegarde's techniques to her own practice with some very amazing and satisfying results. Instead of relying on the technical devices that the medical community relies on in this century, she started using Hildegarde's methods as well: listening to the patient, carefully observing, and considering all aspects when deciding on treatment. Hildegarde's System of the Fours was a holistic system. Her medicine combined the "four humors" theory of premodern medicine with her own knowledge of medical botanicals. Dr. Sweet traveled to Switzerland to study Hildegard's original manuscripts as part of her doctoral program. Like Gage, she also taught herself German so that she could read Hildegard's manuscripts in the original. At the completion of her studies she embarked on a pilgrimage tracing the path of St. James from France through Spain. She broke the journey into three separate trips over three years' time, each time returning to Laguna Honda with new insights and more challenges wrought by the modernization of the hospital under financial duress. Sweet's study of Hildegard formed the basis of her PhD in the history of medicine and resulted in an award-winning book, *Rooted in the Earth, Rooted in the Sky: Hildegard of Bingen and Premodern Medicine*.



A friend of mine in Syracuse has written something similar. **Dr. Howard Walsdorf** is a local chiropractor and Natural Healer. His book is entitled **The 4 Element Lifestyle: A Powerful, Natural Way to Regain Health & Vitality**. I have read his book and I highly recommend it! Again, Fire, Air, Water and Earth qualities form the basis for individual healing. They can be tapped into for personal growth, spiritual transformation and physical healing.

There is much more to the Smithsonian article. Rossiter's journey is also fascinating to read about. She discovered women scientists—"but they were undervalued, underpaid, kept as assistant jobs where they did mountains of tedious work, never promoted like their male counterparts ('hierarchical segregation')." Perhaps, I will write more about her in future blogs. She deserves it. She researched why women got less funding than men. Why are they under represented? She even researched the almost ubiquitous sexual harassment endured by female scientist. The article also includes 11 short bios of female scientists in America who Rossiter has brought "out of the shadows!

"No less is the darkness of the world kept more dense and its civilization retarded [than] by all forms of thought customs of society, or systems of law which prevent the full development and exercise of woman's inventive powers."—*Matilda Joslyn Gage, Woman as an Inventor*.