



Deanna Marciano
Venezuela

“ Science is not to be kept but
rather to be spread ”

Interview by María Teresa Arbeláez*

Deanna Marcano is far stronger than she first appears. Among her family and friends she is known as the Iron Lady, though she claims that her temperament has become weaker.

At 74, and having lost her partner of 40 years, she remains committed to science. Though she no longer works in the laboratory, she is fully abreast of the latest publications in her field, can discuss recent advances in natural products and is still an authority on their production.

A chemist by profession, she has a doctorate from the University of Oxford and is far more professionally active than she admits. Indeed, she disseminates knowledge by assessing books to be published and writing her own, 14 at the last count, “dedicated to my students.” She writes prolifically, believing that “science is not to be kept jealously but shared.”

As Venezuelan as her surname

Deanna Della Casa was born in Modena, Italy and moved to Caracas with her parents when she was nine. She attended one of the most renowned high schools in the city, the Andrés Bello High School, from which she graduated as the best student in her final year. She always wanted to be a chemist. Why? I do not really know, she replies, “but I must have some chemical gene because my great grandmother was a healer back in Modena. She would make

brews from plant extracts, with which she cured people.”

She graduated in Chemistry from the recently established School of Chemistry at the Central University of Venezuela (UCV), where she met her future husband Melquíades Marcano on the first day of term. They were married two years after her degree, and had two children. From that moment she adopted the surname Marcano, from the east of Venezuela, and this, together with her distinctive Caracas accent and frequent use of Venezuelan expressions identified her as a “Latina” in England, despite her blue eyes, blonde hair and European demeanor.

A woman who makes her presence felt is a real woman. Have you ever felt marginalized for being a woman studying a subject regarded as very “masculine” at the time?

When I started university in 1956 there were 81 male and only 8 female students in the course, so we accounted for a mere 9 per cent. 35 of us graduated, of which six were women. We were therefore much more persistent than the men, despite the fact that four of us got married.

In Venezuela I never perceived any difference, even in my workplace. I did however feel a contrast in England. I was married with two



Deanna Marcano, academia is the world. Photo by Alexis Mendoza-León, family archives

young children, as well as a “Latina.” Nobody believed that I could study.

I felt resistance at the beginning but once I asserted myself it vanished. The difference between men and women is that women do not know how to assert themselves. I finished my doctorate in three years, having also produced seven publications.

Has being a scientist helped you to deal with loneliness, for example?

I have disciplined myself to constantly look for innovations in my field, which is useful when I sit down with groups of young researchers to discuss topics. With biologists, chemists and physicians.

That is why her colleagues and friends joke that a simple lunch with Deanna can easily turn into a seminar on food science.

Science as entertainment

Dr. Marcano began her career doing chemical research on natural products and studied the structure of alkaloids, an area on which she wrote her first publication, a short article in *Nature*. This made her the first Venezuelan person to be published in the prestigious English journal.

In her doctoral thesis Deanna Marcano developed the structure of the Taxol aglicone, which she isolated from the *Taxus baccata* (European Yew). Years later, in another laboratory and backed by pharmaceutical companies, she obtained this composite from the Pacific Yew, identified its complete structure and described its physiological characteristics. It then became a powerful agent for chemotherapy to treat cancer.

When she returned to Venezuela, she observed that Yew was scarce and consequently worked with modified steroids, influenced by an English colleague who also came to Venezuela. By that time she had already set up a Natural Products group in the School of Chemistry, setting an example for other universities. “She organized the studies in that area in Venezuela, as well as developing its teaching,” states Bernardo Méndez, one of her first students and currently Administrative Vice-



Deanna Marcano

Rector at the Central University of Venezuela. He also recalls that Marcano and another professor, Luis Cortes, published the first university-level book on Organic Chemistry in Venezuela.

“Disciplined and able, she is a fighter, pioneer and the real founder of natural products studies in this country, as she has documented in her books,” in the words of Jeanette Méndez. “I was her student, instructor, colleague, and today we still socialize.”

Dr. Marcano’s productivity is evident in her 70 publications in specialized journals, 15 other publications, 83 presentations and lectures at



Deanna Marcano developed the aglycon structure of Taxol, which isolated *Taxus baccata*, a compound that years later, became a powerful chemotherapy agent against cancer.



Deanna Marcano with her students

congresses, 15 reports and memos and the 31 Bachelor theses, two doctoral theses and eight theses under co-tutorship she has supervised. She retired from her post as tenured professor of Organic Chemistry in the Science Faculty at the UCV in 1986, where she was designated as having an “academic activity.” Alongside her career as a research professor she was intensely active, being a member of various research and library committees, an international advisor, an assessor of public policy organisms, a representative of Venezuela in international organizations, an organizer of congresses and other events, a member of award panels, a project assessor and a reviewer of national and international publications. She is currently an academic advisor on the Scientific and Humanistic Development Council at UCV and a member of the Academy of Physical, Mathematical and Natural Sciences, where she is a member of the Women in Science group.

Industry with academia

“After retiring, Dr. Marcano became an assessor of a company producing food additives, which opened a new world for her. She was also a patent assessor for several firms, which changed her perception of the academic and industrial spheres.

The new government policies in Venezuela encourage scientists to immediately make themselves useful to society. What is your opinion of this?

That is a false premise. It is like the relation between art and craftsmanship, in which neither of the two activities is compromised. Science is an art, whereas the solution to immediate problems is craftsmanship. Although it is immensely important for scientists to solve problems, they must not devote themselves exclusively to that task. Had I not had my basic training, I would not have been able to solve problems in industry. When I was working with students on their theses in the lab, I may have thought of the usefulness of those results, but not in the immediate future. Here is an example. The last doctoral thesis I supervised focused on a plant, nightshade. *Solanum nigrum* L, which is traditionally used to relieve the pain of herpes zoster, a viral infection known in Venezuela as shingles. We proved clinically that the isolated product is a virustatic - it halts the growth of the virus - and is effective against herpes

zoster. However, even though the final project earned a prize, we were unable to continue as we lacked funds and the industry was not interested. This was partly because acyclovir, a synthetic composite targeting that viral condition, had just appeared on the market.

Which of your achievements are your greatest source of pride?

I am proud of my books designed for students. Science should not be kept jealously but shared.

Indeed, on four occasions (1984, 1994, 2000 and 2002) Deanna Marcano obtained the Biennial Prize for the Best University Book.

Today, after 26 years of retirement from her

alma mater, her thoughts are permanently occupied with science. It has become her hobby.

She lives in the world of academia, says her son Alfredo Marcano, a physicist and a researcher and professor at the UCV. How would he describe her?

My Mom? She is the best! ■

María Teresa Arbeláez is Director of Public Relations (DPA) editor of the daily electronic bulletin *USB en Breve*, the monthly bulletin *El Papel de Bolívar* and the news blog <http://usbnoticias.info> and editor of *Datos y Cifras*.

A disciplined, capable fighter and pioneer, and the founder of studies on natural products in the country, which she has documented through her books

