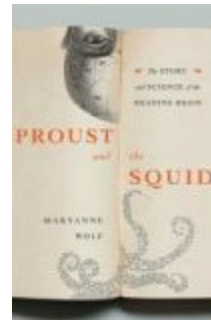


Reading Worrier

by Maryanne Wolf

(Maryanne Wolf is a professor of child development at Tufts University, where she holds the John DiBiaggio Chair of Citizenship and Public Service, and is the director of the Center for Reading and Language Research. She will be IDA_RMB's featured speaker at our Annual Conference on October 2nd & 3rd.)



I have always worried about who can read, who can't, who doesn't, and the great, life-altering consequences hidden within those distinctions. I have spent most of my adult life as a scholar, teacher, and researcher in the cognitive neurosciences pursuing these questions. Now I have a new worry, no less insidious in its potential for affecting the lives of our young: the possible differences in our *e-children's* brains — those for whom reading largely means time before a screen during school, after school, and into the late hours of the night. My worry stems from my concern for the reading brain as we know it — a precious, freshly constructed platform for each new reader's intellectual development. How it functions, however, depends a great deal on how it is formed. But that is getting ahead of the story I wish to tell about how a *reading worrier* became, for all purposes, a *reading warrior*, compelled to write about all of these issues in *Proust and the Squid: The Story and Science of the Reading Brain*.

I encountered my first worry in a tiny, two-room, red, brick schoolhouse in Eldorado, Illinois, where the first four years of our early education took place in the left room, and the last four on the right. Because the desks were all one size, I imagine I was barely discernible behind my brown wooden desk, a perfect place to observe the "goings on" in my little world and an ideal spot to observe and fret over my friend Jim. Once a day, Jim would transform before my eyes from the incorrigible, Huck-Finn-like leader on the playground to a white-faced, fist-clenched cartoon of himself whenever he had to read.

After a little while our teacher, Sister Salesia, asked Jim to stay after school and work with her. Once, while trying to erase the blackboards after school as unobtrusively as possible, I observed them huddle over a book. It was pure pain to watch Jim try over and over without success to learn the secret code behind the letters that the rest of us knew. Suddenly aware of my watching, Jim looked over at me with such a mixture of anger, frustration, and shame, that I dashed out and never did that again.

It took two years of careful tutoring before Jim could read, but when he did, Huck Finn was back, cockier than ever, ruling his asphalt territory with verve and natural leadership. I wondered then *why* it all mattered so much, for I knew it did — and deeply. I also knew Sister Salesia had performed a secular miracle. Jim was now one of "us," we who could open a book and fly to Narnia, Middle Earth, and places we could barely imagine in our tiny town, where the only riches to be found were in the town's name and the dreams of its families for their children.

Much later, when I was armed with two degrees in English literature and poised to begin another, I volunteered to teach in a Peace Corps-like situation in rural Hawaii. For all purposes indentured to the local sugar cane plantation, the tiny largely Filipino and Asian community where I worked couldn't have been more welcoming, and the third and fourth graders I worked with couldn't have been more beautiful, or more in need of a teacher. No less than eight languages filled my room. By the second week, we, the class and I, were hopelessly in love with each other, and I was hopelessly at sea in terms of how I could ever teach so many different levels of learning in one class with one language. To this day many, many teachers across America have similar challenges and are similarly poorly prepared to deal with them. By the end of that first year, I failed. Most of the children who couldn't read before I came, still couldn't. I didn't have the right tools, and I didn't even know if they existed. I lost the only chance I would ever have of changing the educational trajectories of those loving children. I knew in my gut that unless someone else came along to teach them, they would never reach their full potential, and that would be that. This terrible realization changed my life.

Two decades later, I am a scholar of reading still worrying about the political, emotional, and intellectual consequences of children who will never learn to become fully literate. But now I am armed with different degrees and an armamentarium of knowledge so unexpected and newly discovered that I still remain in awe of it. I work in a mix of areas and am informed by them all: child development, psycholinguistics, education, and most especially, cognitive neuroscience. At its most basic, my research is about how the brain learns to read, what is going on in brain development when it can't, and how this knowledge can inform both our teaching of typically developing children and our

intervention with children who struggle — whether from reading disabilities like dyslexia, or environmental factors like being English language learners. It is an extraordinary moment to be studying the reading brain, because neuroimaging allows us to observe quite literally what Jim's brain was and was not doing as he tried to read those years ago. It also allows us to observe what more typical, young reading brains do when they first begin to acquire reading. And from beginning readers to expert readers, we can observe the changes that figuratively and physiologically transform both the neuronal circuitry and the intellectual course of our lives. Perhaps we didn't need neuroscience research to tell us that we are in many ways the stuff of what and how we read, but it is remarkable, nonetheless, to see visual proof in scans of the brain's activation chronicling our changes as we become truly comprehending readers.

Proust and the Squid: The Story and Science of the Reading Brain represents a snapshot — to be precise, three snapshots — of what we now know about the origins of reading (how the human brain learned how to read); the development of reading (from infancy's influence, to expert reading adults); the gifts and the challenges of reading failure in dyslexia (what happens when the brain can't read). It's a triptych of our knowledge and a frank apologia to this cultural invention that changed our lives as a species and as individual learners.

However, here's the proverbial rub. We human beings were never born to read; we invented reading and then had to teach it to every new generation. Each new reader comes to reading with a "fresh" brain — one that is programmed to speak, see, and think, but not to read. Reading requires the brain to rearrange its original parts to learn something new. The study of reading teaches us how wonderfully plastic the brain is and how important many of the brain's disarmingly simple-sounding design features (e.g., its ability to recognize and represent patterns so that we can access their information quickly) are to the growth of our intellectual capacities. In this way, by analogy, the study of reading is to modern cognitive neuroscience, what the study of the squid's beautiful long axon was to earlier 20th century neuroscientists: a way to study how the brain's neurons work. That is the "squid" analogy in the otherwise enigmatic title.

I use Proust as a metaphor for the most important aspect of reading: the ability to think *beyond* what we read. The great French novelist Marcel Proust wrote a little-known, essay-length book simply called *On Reading* in which he wrote:

The heart of the expert reading brain is to think beyond the decoded words to construct thoughts and insights never before held by that person. In so doing, we are forever changed by what we read.

I worry that such a reader and such a reading brain — formed through years of immersion in texts and books that reward deep analysis, inference, and reflection — is being changed in unforeseen ways behind screens that provide all manner of information instantly and seemingly comprehensively without the same need for great effort, deep analysis, and going "beyond the information given." I worry, like Socrates long before me, that our children are becoming more "decoders of information" than true comprehenders. I worry that they are deluded by the seeming permanence and volume of their information, into thinking they "know it all" — when they have barely begun to fashion the kind of brain that has learned how to probe, infer, reflect, create, and move to whole new places on its own.

I know much about the preciousness of the reading brain, and I worry that we will lose some of its most essential contributions if children are not taught first to read, and to think deeply about their reading, and only then to *e-read*. This is no binary or Luddite perspective; it is a developmental approach to how we can form reading brains best able to learn, analyze, prioritize, and integrate anew the massive bits of information available into real knowledge, and, if we are all lucky, into wisdom. At the end of *Proust and the Squid*, the choice is left to the reader.

(This essay originally appeared on www.powells.com and is reprinted with permission.)