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For this is the lesson of science, that the concept is more profound than the laws, and the act of judging more critical than the judgment.

—Jacob Bronowski, *Science and Human Values*

This election season has brought into sharp focus the daunting—seemingly intractable—challenges we now face as a nation: increasing energy demands amid diminishing resources; climate change and other environmental threats; the specter of pandemics; the need to regain a production-based economy, secure a sustainable food supply, and more. All of these concerns must be addressed by science and its derivative technologies, but many fear that this country is on the wane with respect to science literacy. Although it is true that the nation still accounts for more than 40 percent of the world's investment in research and development, new patents, and highly cited research publications, as well as the majority of top-tier universities and Nobel laureates, it is also true that our youth are failing to grasp the notion of science as a uniquely human way to confront and address the issues before us. This country's students continue, on average, to decline in math and science performance.

I have thought for a long time that the practice of *the scientific method* might be a remedy for the anxiety that we all experience when confronted with things that make no sense to us. The method is elegant in its simplicity: We observe something that puzzles us. (We should all have the observational powers of Leonardo or Vermeer!) We predict what might be an explanation (i.e., a hypothesis). We undertake an experiment to confirm or refute that explanation. Eventually, the test of time (and examination by our colleagues) validates what we have put forth as the truth.

What an advance we would make as a species if all of us, from childhood on, applied the method to what we observe every day in our lives. Consider, even, the power it might bring to a child in a tormented home. Wouldn't it be a little less frightening and painful for such a child not only to observe the behavior of an addicted parent but also to query others as to what might fuel that addiction, so that the child could then draw the conclusion that he himself is not the cause of that parent's behavior?

Brian Greene, a Columbia University physics professor and author, recently wrote a marvelous op-ed piece in *The New York Times*. He notes that, absent the robust integration of science in our everyday lives, we cannot make rational decisions about any of the trials that condition our future. Science, he says, is a way of life—taking us from confusion to understanding with precision. It is as precious a human experience as is art or music.

All young children explore. They want to know what things are and how they work. However, unless they are applauded as explorers, they lose the urgency to comprehend what's around them, let alone gain an understanding of the universe and its origin, how the brain gives rise to the mind, evolution, and so forth. The brain is most plastic in the early years; that is the time to make scientists of us all. How to sustain our young explorers as practitioners of *the scientific method* throughout the entirety of their lives seems to me to be the greatest challenge to the human condition and to our nation as we rebuild it.



JOSHUA FRANZOS

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