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## Imagine Me Pfizer

I am not a biologist of any kind, nor do I work for Pfizer Inc., the multinational pharmaceutical and biotechnology corporation headquartered in Manhattan. Nor do I work for its mRNA partner, BioNTech. But, I am, or I was, a scientist/engineer who can very well appreciate the success that is Pfizer's and BioNTech's, and that of others like Moderna, Inc., in developing the COVID-19 vaccines. They have protected the willing of us. When the books are written in full about the pandemic of our time, it will be an amazing story indeed, one for the ages, both as relates to the science of vaccines and the scale-up in record time.

Because I did work in an industrial research and development environment for my whole professional career, in the lab first and then in management, and had big and ground-breaking ideas all around me, I can imagine how this all went, not only over the obvious past couple of years, but probably over ten or more. It can take that long for a big idea to come to full commercial fruition, and sometimes not before unforeseen serendipity and opportunity. I don't at all know the specific path in this case, the inside story, but I'll bet Library services were a part of the story.

Among others with like quotes, Isaac Newton, in a letter to Robert Hooke in 1676, wrote, "If I have seen further it is only by standing on the shoulders of Giants."

Giants, and even the not so giant like the rest of us, are motivated to write about what they know and have reasoned out, and what they have newly discovered, and what they have determined by calculation. They write in professionally reviewed journals. They write books. They go to conferences, and they listen, and they present and they chat. They, with the help of corporate attorneys, are encouraged to help draft patent applications. They write internal reports for corporate Libraries. They use print as medium, and they use electronic means more and more. In all these ways, they talk among peers, and they also talk to the future. Pfizer scientists must have listened well; they are certainly talking to the future.

They must have done everything but isolate, because isolation is usually counterproductive. Scientists and researchers know that in their bones; although, sometimes they do isolate, because of confidentiality needs, within the confines of a corporation.

I look forward to reading the Pfizer-BioNTech story in full. And if you think that Pfizer has only one story to tell, think again. In Chemical & Engineering News, January 10/17, 2022 issue, it was reported that "Pfizer Buys into Next-generation Gene Editing." The article refers to Pfizer buying into a partnership with Beam Therapeutics (connectivity to the Broad Institute at M.I.T. and Harvard University), so as to parlay that startup's expertise in CRISPR-based therapeutics and Pfizer's drug-development and manufacturing skills. Previously I noted the very readable CRISPR book by Nobel

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Laureate Jennifer A. Doudna with Samuel H. Sternberg, "A Crack in Creation: Gene Editing and the Unthinkable Power to Control Evolution" (2017).

The biology story playing out in our time begins with reading and building on informed books and literature, even from as far back as Charles Darwin, as well as Francis Crick and James Watson. It is about Libraries, of whatever kind, and shared ideas and skills. What a story!

Charles B. Greenberg  
Board Director, Murrysville Community Library Foundation