

Editorial

The Buzz and the Sting

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I am an optimist, but can't help noticing that disappointment follows every great invention. For a while. As athletes say, "no pain, no gain". The eHealth highway has its own detours and potholes, but we are compelled by circumstances and opportunities to travel upon it.

We humans are gullible innocents. Over the past several decades we came to expect a cure for cancer, theories that would explain the mysteries of the Universe, solar powered homes, supersonic travel, the paperless office, and Telemedicine.

Some surprises were encountered. Cancer proved to be many diseases with differing and complex causes. Schrödinger's cat still threatens the Quantum mouse. "Free" solar power comes at a dear price. The exorbitant Concorde was, and still is, the only supersonic game in town. The mills continue to churn out paper by the thousands of tons, and please, don't get me started on Telemedicine...or the Internet!

Like I said, I am an optimist. There are cures for some cancers, CD ROM technology is a successful application of Quantum physics, and so on. Our reach often exceeds our grasp, but we are as stubborn as we are gullible. We learn from our mishaps and progress is made. We become efficient.

Gene Therapy is a fascinating example of the sweet promise of a revolutionary technology, as well as the bitter taste of tragedy and disappointment. The first death caused by

a gene therapy experiment occurred on September 17th of 1999, and reality was frigid water. Still, there are several dozens of gene therapy protocols in use today, and so much has been and is being learned.

Bioinformatics is the merging of two disruptive technologies...information technology and molecular biology. It is eHealth on a Micro level. With estimates of the numbers of unique human genes differing wildly between greatly respected centers of research, one has to wonder how close we really are to sorting out the human genome. Bioinformatics is helping us to sort out the vast complexities of the Genome and Proteome. We are finding that the Genome itself does not explain who we are. Genes express themselves a little differently from species to species, and indeed, from person to person. Genome browsers and data mining help us to make sense of something far too complex for us to otherwise understand.

In a sense, we invest in loss with every disruptive technology. If we were to sum up the costs and benefits of Telemedicine, I am not so sure that we have yet recouped our investment. That is not so much a criticism of Telemedicine, as a realistic assessment of how long it takes for a technology to mature.

We may at times find the setbacks and disappointments we have experienced daunting, but we have no choice but to be brave. We are living in the Imagination age, where the real capital will be created by making our wildest dreams happen. In Quebec, Nexia Biotechnology has created a herd of transgenic Goats that create spider silk for

commercial purposes. The North Carolina State University Mars Research Centre is developing a range of crops with biotransmitters and receivers that will allow humans to communicate with and care for crops at a great distance...between Earth and Mars. Will the complexity of our own DNA need to be increased to keep pace with the changes we are making to everything around us? Perhaps the present situation should be called "Applied Science Fiction".

It is necessary for us to adopt the Beginner's Mind, in order to free ourselves of limitations that don't really exist. A small child believes that everything is possible. They are right. The seed of genius is the premise that all things are possible. Let's continue to conduct experiments and make mistakes, and dream about the possibilities while commiserating over our failures. After all, the "e" in eHealth is as much about "emerging" as it is about "electronic". It will never stand for "easy" [see additional file 1].

Additional material

Additional file 1

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