



Snow-capped idea volcanoes

TO MARK Zuckerberg, Facebook founder: “Young people are just smarter!”

This is what you, a brash 22-year-old wunderkind, said in 2007, at an event at Stanford University. It was just three years after you dropped out of Harvard, at age 19, to launch Facebook, on February 4, 2004.

To be fair, the full quote in context is: “I want to stress the importance of being young and technical. Young people are just smarter. Why are most chess masters under 30?”

Most young people do believe they are a lot smarter than us seniors. So Mark, as a 76-year-old over-the-hill professor, I’m going to refute you, by initially agreeing with you.

Young people are more “technical” than us seniors. You do know how to program in Python, Java and C++, while some of us are still stuck on Cobol, born back in 1960 (and still, incidentally, highly useful).

But Mark, recall what Albert Einstein said. “A smart person solves a problem. A wise person avoids it.” And we oldies are wiser. We’re good at avoiding problems.

You, Mark, and Facebook are at present in a ocean full of hot water. (We’ll have more to say about that later). A few more grey hairs in your management team might have forestalled it.

So, Mark, here goes. I’m going to try to convince you that those over 60 not only have clever ideas but often know far better than young whippersnappers how to implement them. And I will cite a lot of examples, many drawn from people I know personally. Call them “snow-capped idea volcanoes”, if you will.

Yes, I know – a Yiddish saying asserts “a bayshpil iz nisht a dervayz” (for instance is not a proof). But in high school math class, you probably learned that a single example disproves a law, though it does not prove one.

Consider the volcanic Dr. Shlomo Ben-Haim. The daily Haaretz called him “the professor with a Midas touch”. A former Technion professor of cardiology, Ben-Haim, now 61, holds some 550 patents and patent applications. Harvard Medical School acclaimed him as a “...cardiologist who de-

veloped new ways to correct life-threatening problems in the electrical system of the human heart.”

Among his inventions: An implantable device to treat congestive heart failure, a 3D navigated cardiac catheterization system, and an implantable device for treating congestive heart failure and diabetes.

Eight startups Ben-Haim founded were acquired by large global companies for a total of 1.325 billion dollars, including his first, Biosense, acquired by Johnson and Johnson in 1997 for 427 million dollars. And there is no sign this idea volcano is slowing down.

Another silver-haired idea volcano is Dr. Shimon Eckhouse. After a long career at Rafael-Advanced Defense Systems, specializing in electro-optics, Eckhouse retired in 1986 and in 1992 founded Lumenis, when he was 47, based on his invention of intense pulsed light.

Lecturing to Technion students many years ago, Eckhouse revealed his secret advantage. When he launched his startup career, he explained, at age 47, he had no time to waste and so focused on immediate practical solutions to pressing needs.

Eckhouse, now 73, has since gone on to co-found Syneron-Candela and at least nine other startups, all successful, along with a leading medical incubator. And like Ben-Haim, Eckhouse’s volcanic energy is unabated.

I recently spoke with Dr. Adrian Harel, who is now 61. At age 4, in 1961, he made aliyah with his family from Romania and got his Ph.D. in neurobiology from the Weizmann Institute. He chose to launch Medicortex Finland in 2014, which makes neuroprotective drugs and biomarkers for diagnosing brain trauma.

Harel says, “In the years until 2013, I set up and managed several biotechnology start-up companies and accumulated vast experience in different aspects of management, from logistics to recruiting correct people for the job and to the fundraising aspects. Following President Barak Obama’s 2013 appeal to neurobiologists to address the brain injury problem, I have made a change in my life and devoted all my time

and all my money to solving the problem of brain injury.

“Setting up Medicortex in Finland was a must since Tekes, the Finnish Government’s Agency for innovation funding (currently Business Finland) was the best grant I could get at the time. I received a matching check equal to the money I had personally invested.

“Today, at 61 years old, I have seen many success stories and a few failures from which I have learned a lot. I know the important people in the relevant business and science areas, the suppliers, service providers, the legal framework etc. So, the accumulated years and experience of performing above tasks are giving me a great advantage.”

At Technion, I teach my students that first and foremost, a successful startup begins by identifying a real unmet need. When you’ve lived for 60 or 70 years, you have deeper insights into what people need and want. This is what my old friend Dr. Noam Gavriely told me.

Gavriely, who just turned 68, got his M.D. and D.Sc. degrees from Technion in 1979 and 1981, respectively, and taught there for almost three decades. He founded the first of several startups in 1996; today doctors and hospitals all over the world use his inventions. One of them, Hemaclear, is a clever sleeve that “exsanguinates” (removes blood from) arms or legs and thus enables orthopedic surgery with little or no bleeding. It is produced locally, in Tirat Carmel.

Gavriely says, “Shlomo, you keep asking me “from where do you get your ideas?” The key to all of my inventions is the identification of a need. The solutions come later and one has to be careful not to fall in love with the first solution (invention).

“An example: I have been working on the science of listening to the human body (mostly lungs) for many years. Only when I decided to move from Academe to the real world, did I ask myself, ‘Where is an automatic listening device really needed?’ After all, the doctor can listen with a stethoscope very effectively.

“It was only when I realized that when

lung patients (e.g. asthma) are at home, at night, there is no one there to actually take note and pay attention and prescribe medication. So this is how the WHolter™ came to be – a wheeze Holter device that can record the sounds at the patient's home at night and then can be reviewed by the doctor. The identification of the need was key to the development of the solution (i.e. the inventive steps)."

So, I asked Dr. Gavriely, as the standup comedians like to say, what have you done for us lately?

"My latest invention is the de-constipator (not the real name, but who knows). I was observing the agony of our relative, who travels to the emergency room every few weeks to deal with impaction [a large hard mass of stool that gets stuck in the colon or rectum]. I visited the over-the-counter shelves at a large drugstore and saw the shelves full of pills, capsules, powders, liquids, enemas and suppositories. I realized that if there are so many 'cures', probably none of them work really well. So the need is clear. Now come the long showers where there are no phones, e-mails, conference calls and other distractions, so you can truly think critically and trash all the great ideas that you have, until you come to the one that withstands scrutiny and is worthwhile pursuing."

I CONCLUDE with my own story. On November 10 I turned 76. The ideal age for a burst of world-changing creativity, including fresh ideas and ways to implement them?! Say again? World changing ideas, at the age when the most daring events in life for many are a cup of warm Ovaltine and a short walk to the bathroom?

In 2001 I was given the priceless gift of early retirement from Technion. Liberated from committees, politics, endless grading and lecturing and a cloistered office, I did what startups call a "pivot". I worked with dozens of startups and high-tech companies at Technion Institute of Management. That incredible experience stimulated a burst of creativity. I have since published a dozen books, most of them meant for the general public, all on how to be more creative and innovative. Three have been translated to Chinese.

So, Mark Zuckerberg, Facebook founder, I rest my case.

I note with sorrow that you and your company are in a ton of trouble. You were hauled before the US Congress in April to explain why Facebook may have aided a Russian disinformation campaign in the 2016 election. You are mixed up with the Cambridge Analytics scandal and the alleged illegal sharing of private data from up to 87 million Facebook users. Press accounts suggest Facebook could face a "breathtaking" federal fine. And Europe is now beginning to clamp down on Facebook.

In June, a Pew Research Center survey found that "42% of Facebook users have stepped back from daily activity and engagement" and 26% said they deleted the Facebook app from their phones.

So, 34-year-old Mark Zuckerberg, today you are older and more battle-scarred than you were in 2007. The average age of your board of Directors is 54, 20 years older than you, and two of your Board members are 73. Listen to what they say from time to time.

You may be smarter. But they are wiser. Remember what Einstein counselled?

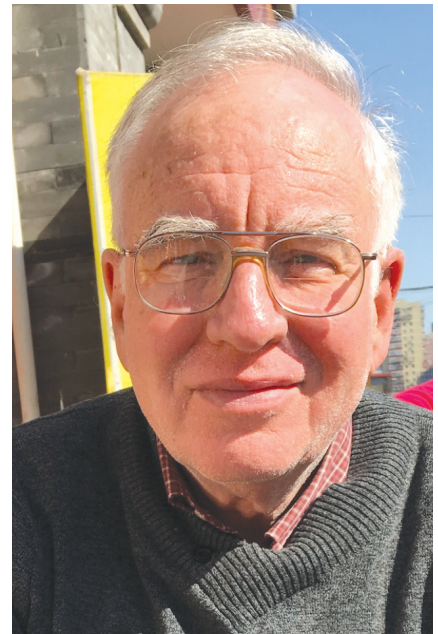
John Goodenough and his team at University of Texas (Austin) "has just set the tech industry abuzz with his blazing creativity", wrote Pagan Kennedy, in the New York Times, in April 2017. "He and his team filed a patent application on a new kind of battery that, if it works, as promised, would be so cheap, lightweight and safe that it would revolutionize electric cars and kill off petroleum-fueled vehicles."

This is not Goodenough's first invention. At age 57 he co-invented the lithium-ion battery that shrank power into a tiny package; such batteries now exist in nearly all devices at home and at work.

What is unusual about Goodenough? His age. He is 94 years old.

We have known for many centuries that senior brains are highly productive and creative. Leonardo da Vinci, perhaps history's single most creative individual, was making breakthrough discoveries in hydraulics and anatomy when he was 57, in 1509. In those days, 57 was old age. And when he was 62, a year before his death, da Vinci was making plans to drain the Pontine Marshes in Italy.

A recent study by Pierre Azoulay, Ben Jones, Daniel Kim and Javier Miranda, "Age and High-Growth Entrepreneurship", showed that for new technology-intensive



EDIT GAVRIELY

Dr. Noam Gavriely

firms in the US launched between 2007 and 2014 the average age of the founders was 43.9. And in Silicon Valley, startups that achieve a successful exit have an average founders' age of 47.

But for Israel, youth still prevails. A web-based study of 550 Israeli entrepreneurs by the investment company Plus Ventures found that only one in eight was 45 or over. Some 52% were aged 25-35.

Does Silicon Valley know something about snow-capped idea volcanoes that Israel has not yet learned?

A mind is a terrible thing to waste. Are we wasting the creative minds of our seniors? Is the wrong-headed assumption that creativity is entirely the domain of young minds depriving the world of revolutionary ideas? As populations in the West and East alike age, will we continue to marginalize all those snow-capped idea volcanoes?

And by the way, Mark, with regard to chess? In the 2012 world chess championships, the two competitors Viswanathan Anand and Boris Gelfand both were 43 – the oldest pair to compete since 1886. ■

The writer heads the Zvi Griliches Research Data Center at S. Neaman Institute, Technion and blogs at www.tinnovate.wordpress.com