CUBICASSET MANAGEMENT, LLC

2019 1st Quarter Stock Market Commentary

THE CLOUDY CRYSTAL BALL

"It's tough to make predictions, especially about the future."
- Yogi Berra

There is a very cute video available on YouTube entitled "If Alexa Was Southern." In it, a woman with a prototypical Southern drawl asks Alexa to "play something slow from a country music station." Alexa responds with "Here's what I have for extreme constipation." This video humorously addresses a serious problem for Alexa, Siri, Cortana and Google's Assistant, namely, that all of the voice-activated artificial intelligence infused assistants cannot consistently recognize accented speech. The internet has literally thousands of hilarious videos in which Alexa mis-understands an Irish, Scottish or Indian accent, which has led to speculation that people may be forced to modify their speech to conform to Standard American English (SAE), the dialect used by television newscasters.

Interestingly, after Alexander Graham Bell patented the telephone in 1876, there was similar speculation that regional accents would disappear once people from different areas of the country could talk to one another. Fifty years later Philo T. Farnsworth invented the television, which again led to the suggestion that everyone in the United States would soon be speaking SAE. Once again, the forecasted trend never happened. In fact, according to an article by Dr. Rachael Tatman in the journal *Linguistics and Data Science*, regional dialects are actually becoming more common. Apparently, the threat from SAE has caused increased peer pressure from family and friends to retain and use speech which conforms to one's social network. A prediction that seemed obvious at the time simply never occurred. Regional accents are still with us, as anyone who has watched Fargo can attest.

These musings were prompted by an interesting article in the Wall Street Journal last November after Amazon decided to add tens of thousands of new jobs to the New York and Washington, D.C. metropolitan areas. The article pointed out that a relatively few of the largest cities – New York, Chicago, Dallas, Houston and San Francisco - now account for a disproportionate number of corporate headquarters. One third of all the Fortune 500 companies now call one of those five cities home, and those companies represent more than half of the total profits of the Fortune 500. Employment in large cities is growing at 7% per year, while smaller cities are growing much more slowly and rural areas are falling further behind.

This is in stark contrast to forecasts at the start of the internet era in the early 1990s. "Experts" unanimously predicted that because the internet permitted people to work from anywhere,

companies would develop distributed workforces and avoid the high office-space rents and even higher housing costs of the major metropolitan areas. Instead, places like Silicon Valley and Seattle for technology workers, and Boston for life sciences, showed that a high concentration of knowledge workers could fuel innovation at a much faster rate, while enjoying the trendy restaurant and entertainment options available in such areas.

The point is that new technologies often transform society in ways not anticipated by their developers and early adopters, and it is dangerous to be too confident in the forecasts of "experts."

Let's examine a few emerging technologies to see whether they might evolve in a way different than currently anticipated.

Consider first the current drive (pun intended) to develop autonomous vehicles. The consensus vision is of steady stream of evenly spaced cars whisking passengers to their home or office. According to a 2017 report by the National Conference of State Legislatures, government traffic planners envision a future in which autonomous vehicles (AVs) will be programmed to obey posted speed limits, which is considerably slower than most drivers are accustomed to. In California, the only state which tracks traffic accidents involving AVs, there have been more than 50 traffic accidents involving AVs since 2014. There were two primary causes. The first was a human driver rear ending an AV when the AV suddenly slowed for another vehicle or pedestrian. The second was when a human driver side-swiped an AV because he was frustrated that it was driving too slowly. This is not dissimilar from the early 20th century when cars and horses shared the roads. There were no rules of the road, such as speed limits or stop signs. Speeding cars would often frighten the horses, resulting in numerous fatalities to both people and animals. Eventually, express roads were built and laws were passed forbidding horses on highways, leading to the dominance of the automobile.

It is possible that something similar may be necessary in order to allow AVs to flourish. We may need an alternate road system for AVs, where they could travel at higher speeds without conflict from irrational human drivers. The consulting firm Madrona published a study in 2017 proposing the conversion of Interstate 5 in the Northwest to an AV only road. It took decades for legislation to develop rules of the road for cars on roads originally designed for horses, and it very well may take decades to reconcile the differences between drivers and driverless vehicles. In my experience, a multidecade period is outside the investment horizon of the average investor, and many currently-hyped companies may see their stocks fade long before a solution is found.

Another much-hyped trend is the move to personalized medicine. This is based upon the idea that genetic testing can be used in multiple ways to improve peoples' health – to shift the emphasis of treatment from reaction to prevention, and determine the optimal treatment which will reduce the current method of trial-and error treatment. Proponents argue that personalized medicine will reduce overall health care costs by preventing disease, avoiding trial and error dosing, and reducing adverse drug reactions. The current reality, though, is at odds with the theory.

First, genetic testing can reveal each individual's predisposition to develop various illnesses. The steep drop in the cost of producing a genetic profile (roughly 1/16,000th the cost a dozen years ago) means that it is possible to assess which people are likely to develop Type 2 diabetes, breast or ovarian cancer, age related macular degeneration or Parkinson's disease, to name just a few. In theory, this should be a boon to the promotion of a more healthy lifestyle. But in practice, numerous studies have found that very few individuals modify their lifestyle when given this genetic information. Even worse, a significant subset of people, when told they are at risk for a particular disease (even though they may never get it), will choose to incur further tests, which raise the costs to the health care system without improving population health. These "worried well" may end up clogging doctors' waiting rooms because they perceive a ticking time bomb.

Second, genetic testing can potentially reveal which drugs which will be most effective for each patient. Clearly, at the patient level this is of tremendous benefit. But it, too, has the perverse effect of raising drug prices. When a pharmaceutical company brings a new oncology drug to market, for example, they typically price it so as to recover the drug's development cost, plus an appropriate (or in many cases inappropriate) profit margin. Without the use of genetic data, the potential market includes individuals for whom it will be effective, as well as many others for whom it will not. If the treating physician knows that it will not work on half of the people with the disease, the pharmaceutical company needs to double the price to earn the same return.

Once again, the economic promise of the new technology may be realized much more slowly than investors currently anticipate. Publicly traded companies involved in personalized medicine, such as Crispr Therapeutics, Precipio Diagnostics, Intellia Therapeutics and Editas Medicine, to name a few, all sell at infinite multiples, since none of them have any earnings. It is possible that they will completely alter the landscape for drug development and patient care. But it is also possible that they will follow other personalized medicine pioneers like Rosetta Genomics, KineMed and 3D Signatures into bankruptcy, if the market does not develop as anticipated.

Throughout history, there have been numerous business leaders who failed to see the potential of emerging technologies with which they were intimately familiar. Thomas Edison, for example, the inventor of the light bulb who built the first power plant in New York City, was a proponent of the use of direct current. "Fooling around with alternating current is just a waste of time. Nobody will use it, ever." Today, AC is the primary source of electric power in America's homes and factories.

Darryl Zanuck, co-founder of Twentieth Century Pictures, was famously dismissive of the threat posed by the new technology, television. "Television won't be able to hold on to any market it captures after the first six months. People will soon get tired of staring at a plywood box every night."

In 1943, Thomas Watson, the president of IBM, was famously quoted as saying "I think there is a world market for maybe five computers." In a similar spirit, Steven Ballmer, the CEO of Microsoft, said in 2007 "There's no chance the iPhone is going to get any significant market share."

And just as these titans of industry failed to perceive the transformative power of new technologies, others predicted sweeping changes that never materialized. Eddie Rickenbacker, the famous World War I flying ace and winner of the Congressional Medal of Honor, predicted in 1924 that "Within the next two decades autos will be made with folding wings." This is obviously not the case, unless we count the flying DeLorean in *Back to the Future*.

Arthur Summerfield, the U.S. Postmaster General during the 1950s, foresaw a bright future for his agency. "Before man reaches the moon, your mail will be delivered within hours from New York to Australia by guided missiles. We stand on the threshold of rocket mail." Perhaps he meant Rocket Mortgage.

This is not intended to make fun of this accomplished gallery. Predicting the future is easy. Being right, not so much. Think about the lesson embedded in these quotes the next time you think about investing heavily in the next big thing. The Polaroid camera, America Online dial-up service, Napster and the Segway all had their very brief day in the sun. Solar energy stocks dominated the list of most actively traded stocks a decade ago, just as cannabis stocks do today. It is possible that bitcoin and other cryptocurrencies will fulfill the promise of their proponents, but it seems more likely that it is a solution in search of a problem. Taking a flyer has its entertainment value as long as you don't convince yourself you are the next Oracle of Delphi.