

THE FUTURE OF ANESTHESIOLOGY: CONJECTURES BASED ON THE PAST AND PRESENT

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Predictions of the future have been a great source of entertaining quotations. Some of the most celebrated figures in history have made some of the most naive predictions, and some of the most erroneous predictions have immortalized relatively obscure figures. In reviewing many of these predictions including some made about our specialty, I was struck by one observation that seemed most likely to be valid for our future. It is a quotation from Alan C. Kay, who is a computer scientist largely responsible for the graphical interface now used in personal computers. In 1970, he was a founding principal in the Xerox Corporation think tank in Palo Alto (PARC) where these advances occurred. The following remarks are taken from his address before the 20th annual meeting of the Stanford Computer Forum in 1989.

"We used to have visits from the Xerox executives--usually in January and February--and when we could get them off the tennis courts they would come into the building at PARC. Mainly they were worried about the future, and they would badger us about what's going to happen to us. Finally, I said: 'Look, the best way to predict the future is to invent it. This is the century in which you can be proactive about the future; you don't have to be reactive. The whole idea of having scientists and technology is that those things you can envision and describe can actually be built.' It was a surprise to them and it worried them."

"Another way to predict the future is best explained by an anecdote in John Dessauer's book. Dessauer was an executive at Haloid Corporation, the tiny company in Rochester, N.Y., that eventually became Xerox where he served as an executive for a while. His book is called *My Years at Xerox, the Billions Nobody Wanted*. The story describes how, in 1956, after some years of struggling, Dessauer was able to build the prototype of the 914 plain paper copier. Lacking the money to take the copier to market to build factories and so forth, he decided to take it just down the road to IBM. He told IBM, 'Take this, build factories, go out and sell it. I just want a small royalty.' And IBM did what all companies do when they can't make up their minds: They went out and hired some consultants.

"After an exhaustive study that took 18 months, the consultants came back with a very thick report which conclusively proved that there was no market for a plain paper copier. They had two chief reasons and a host of minor ones. Number one: there wasn't enough copy volume. That was a

big problem. The other was that the xerography process cost more than ten-times as much per copy as the AB Dick mimeograph process, which was the technology they compared it against. The consultants figured no one would spend ten times as much to copy anything. So based on their report, IBM turned down the copier offer, and that was several hundreds of billions of dollars ago.”

“Many others have made this mistake. The railroads made a study after WWI which showed that for as far as they could see into the future, aircraft transportation would always be more expensive than railroad transportation. And you know, they're still right today; it's still more expensive. The problem is the railroads are almost gone because nobody cares if air travel is more expensive, they're willing to pay it. The railroad industry missed the idea that not everything is a commodity market, and that price is important, but there are also value markets where people are willing to pay extra for extra value.”

In my presentation at the 2009 SAAA meeting, I will review some past predictions about the future, but will focus my comments on current opportunities academic departments of anesthesiology have to create the future of new solutions and extra value.