



JULY / AUGUST 2016

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# The future belongs to those who are fast

### What equipment innovations do you see for agriculture in the years ahead?

At the University of Illinois, they have developed what they call the 'AgAnt.' It's a prototype for an automated robot that can assess and detect stress, disease, weeds, soil status and pests. And at Edith Cowan University, they're working to develop a 'photonic weed detection system.' It aims a series of laser pulses at the field, which are reflected back. A photo-detector then analyzes the information and provides instruction to a spray cylinder and valve as to where to apply a treatment.

I find it increasingly difficult to keep on top of many trends, simply because it is happening so fast. Just five years ago, I was on stage in Las Vegas speaking about this fascinating new, future idea of '3D printing.' And then, just last year, I found myself on stage in front of a group of dental professionals, talking about the fact that 3D printing of dental implants, crowns and other implants, was coming into the industry at a very fast pace. 3D printing is expected to have ramifications for agriculture too. For instance, your local equipment dealership might in some cases be able to "print" a replacement part that you need.

### You've said there have been some stunningly bad predictions in past decades. As we consider the range of current predictions, how should we sort the good from the bad?

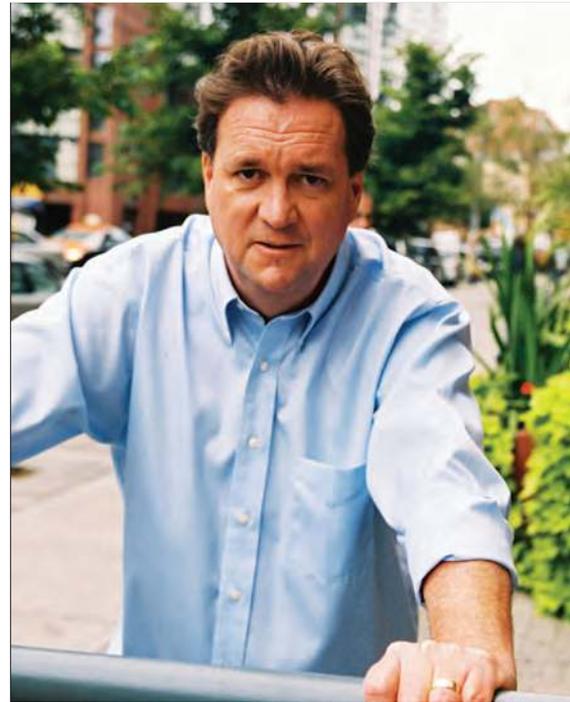
That's a tough one. Maybe the best 'worst' predictions were the ones that rockets would never reach the moon, or Bill Gates's comment that 640K should be enough for everyone! And yet, some people carry it to extremes suggesting we will soon have elevators that will take us to space or to the moon.

How do we sort out the real from the fanciful? Be open, but cautious.

### You note that aggressive indecision often kills innovation in companies. Why is this happening?

During the economic downturn in 2001-02, I noticed that many of my clients, regardless of the industry, seemed to have lost their sense of direction.

Quite simply, people decided not to make decisions – and they seemed to like it. The result is an economy in which everyone seems to be stuck in a rut, unwilling and unable to move forward.



Advice from a leading futurist on how to manage in a rapidly changing business environment.

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#### JIM CARROLL

*Acknowledged as one of the world's leading global futurists, Jim Carroll has an extensive list of blue-chip clients and has delivered keynote addresses around the world. He has operated his own advisory firm, J.A. Carroll Consulting, since 1989.*

# Science is real. Science is fast. Science is accelerating. And agriculture is science.

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Why is this happening? In part, fear of the unknown. And that extends into the world of agriculture. We have a lot of farmers who are afraid to make decisions because the next unforeseen event might prove to have negative consequences.

So what do you do? Do you wallow in indecision, or make aggressive moves to position for a future in which ag only has an upside? I'm in the latter camp.

First, look for the warning signs: a mindset that is averse to any type of risk, an absence of any new product or marketing initiatives, or an organization that is stuck in a rut, wheels spinning, and no one has decided even to call a tow truck.

Second, realize that aggressive indecision means you'll likely have to respond to external pressures faster than ever before. That's because while people have learned they can hold off until the very last minute, they are also learning they can still get things right. This leads to a business cycle that involves extended periods of frustrated waiting, followed by a blur of activity as organizations rush about to respond to customers' demands for instant action.

Third, be prepared to make bold decisions.

Want to test it? Find the one big decision you've been deferring the longest, and decide one way or the other. Right now.

### Technological change has been rapid in the past two decades. Will the rate of change slow, stay the same or accelerate in the years ahead?

It's certainly going to accelerate – that's why my tag line has become 'the future belongs to those who are fast.'

There are numerous reasons why it is speeding up. Certainly the idea of 'crowd-thinking' is having a big impact. We've got this big, global collaborative thinking and research machine with the Internet today.

Science itself is accelerating. The new global mind generates new knowledge at furious rates. We're going from 19 million known chemical substances today to 80 million by 2025 – and five billion by 2100. The discovery of a single chemical substance permitted Apple to miniaturize a hard disk for the first iPad, which led to the birth of a new billion-dollar market.

The acceleration of science has profound implications for agriculture, since much of ag is science-dependent. Consider bio-genomics. The cost to sequence human, animal and plant genomes is collapsing at the same pace that the cost of computer chips collapsed.

Science is real. Science is fast. Science is accelerating. And agriculture is science. ■



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