

From the Deputy Editor's Notebook

Trickle-Down Theory

Any sufficiently advanced technology is indistinguishable from magic.

Arthur C. Clarke (1917–), “Profiles of The Future,” 1961 (Clarke’s third law)

We, as radiologists, are imagers. Many of my colleagues are also imagers—of the visible light spectrum. Most everyone has or has had a camera. Remember going to the drugstore to buy film for your camera? Then dropping off the film and waiting a week for the prints to come back? Perhaps you even had a disposable camera. Your biggest technological decisions were what speed film to get and should you get double prints in glossy or matte finish. Some of you may have even given a passing thought to F-stops.

Now things are a bit different. Everyone seems to have a digital camera these days. It is supposedly the most popular holiday gift, as I write this column in December 2004. Nowadays, people are asking questions such as: how many megapixels is that camera in your telephone? How do I get the movie to play in my browser? How big is your hard drive? Do you use USB or Firewire to download? Is your handheld computer WiFi or Bluetooth enabled? How many gigabytes of music are on your MP3 player telephone organizer doo-hickey? Do you have a cable modem or DSL? How many gigabytes of email storage do you have? Do you save your images as JPEG or

TIFF? These and many other vexing questions are no longer in the exclusive lexicon of technogeeks, but have trickled down to shoppers in your local mega retail store, your neighborhood cocktail party, and even to your children at the playground. How many of us will admit to not really knowing what a gigabyte was just a few years ago? How about a terabyte, petabyte, zetabyte, or yottabyte?

I recall being an early adopter of digital camera technology. In the pre-PACS era, I used digital cameras to take pictures of all my great and fascinating radiographic teaching material. At home, I used to be the only one on my block with a digital camera. My children called it “Daddy’s magic camera,” as my wife was still using the old standby film camera. Remember the days when a 1.4 megapixel camera was the latest rage, you know, back in the 1990s, when such a camera cost over \$800 to move up to from submegapixel varieties? I had both of those. Now they are practically giving away megapixel cameras in cereal boxes. Much to the depletion of my academic allowance, I steadily worked my way up to 2.1 megapixels, then 3.2 megapixels, then 6.3 megapixels; each time spending northwards of \$800 to get the latest consumer model. I suppose I should be grateful that my interest in houses or cars is not quite as avid. I can now print out billboard-sized pictures of my Aunt Minnie, on my newest, latest, greatest wireless 6-color inkjet photo printer. I store these 6-megapixel images on my 3-gigahertz, 250-gigabyte hard drive. Of course, my com-

puter appetite has had to keep pace with my cameras, as my old 40-megabyte hard drive computer could now only hold a half dozen or so pictures, unlike the thousands of pictures I can now store on my new gigabyte thumb drive.

High-end professional digital cameras have been around for years, if you wanted to spend \$5,000 to \$10,000. These were the kind of cameras used by our university computer arts department to make prints of the figures to submit along with manuscripts to the *AJR*. This partly explains the exorbitant prices paid to get prints made. In the few papers I was lucky enough to have accepted to *AJR*, it used to be that the printed images I submitted, from the digitized original hard-copy radiographs, were then scanned to recreate degraded digital images, which were then degraded further by printing in the journal. Nowadays, we easily and readily can download perfect original digital images from PACS and see them come to life in the online version of *AJR*, with essentially zero degradation.

Professional camera technology continues, with \$8,000, 17-megapixel cameras to attach to \$5,000 lenses. As with most technology, we, as eager and insatiable consumers, benefit from the inevitable trickle-down effect. But I am drawing the line with my current 6.3 megapixel camera (for now). Does anyone really need an 8-megapixel point-and-shoot camera?

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