TECHNOLOGY – PAST, PRESENT AND FUTURE
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"The first rule of any technology used in a business is that automation applied to an efficient operation will magnify the efficiency. The second is that automation applied to an inefficient operation will magnify the inefficiency."

- Bill Gates

At 184,358 miles it is time for me to purchase a new car. My current vehicle runs well but the structural parts are falling off and it is just a matter of time before something major fails. While I can think of all kinds of reasons to tough it out there comes a time when one must suck it up and face reality - the car has to go.

While I have purchased many vehicles over the decades this car quest has been significantly different. I feel a bit like an old man turning in his tired horse for his first car.

Except for visual basics today's vehicles are nothing like those of the past. "Flying by wire" is now also driving by wire.

I have test driven everything from a Honda Accord to the Mercedes-Benz S550. To be sure, the 2014 Cadillac is nothing like the boats of the past. These cars get up and go! Driving one is a bit like riding on a laptop with seats and wheels.

The highly rated Honda Accord is an amazing vehicle. It almost drives itself. However, one does have to wonder how many cameras, sensors, heads up displays and rear video with superimposed vehicle tracking is really required to back it into a parking stall.

The 2014 Chevrolet Impala is an impressive improvement over previous models. The new design is sleek and comfortable. It has some real spunk and no longer looks like a building inspector's car. The automotive pontificators are holding great promise for this vehicle's future.

Recently I read a review that said "You drive a BMW but a Mercedes Benz drives you." I have owned both over the years. There is no question that a BMW is fun to drive but it is the Mercedes that is smooth, comfortable and quiet.

The simple dashboards of vehicles of yesteryear have been replaced by Boeing 777 style displays and massive electronic controls. All I can think about is future connector and sensor failures with the associated cost of repair. My Ford F250 is simple - start and drive.

Several manufacturers have a safety feature that automatically reduces speed and warns the driver if the vehicle drifts onto the shoulder. This is a terrific feature for someone who may fall asleep, reads while driving, spills a drink or spend too much on the cell phone.

Bluetooth interface seems almost universal now as does the ability to plug an iPod into the vehicle electronics for additional features. For those who like privacy you may have a problem with where all of this automation is going because everything is tracked, recorded and perhaps can be hacked.

With all of the activity taking place in the cockpit of today's vehicles I wonder how much is necessary and how distracting it is to the basic driving function. How much of paying attention should one yield to machines? Is multitasking a skill one should master in order to drive a car? Are we moving towards instrument flight rules for automobiles?

How much of today's technology creates overconfidence in what we can or should do? At what point does technology create an unsafe environment? What happens if our now dependent systems fail us? What do we do then?

Calculators were relatively new when I was in high school. Nonetheless, those that had one wanted to use it. However our teachers would insist that we do our work by hand. They would say "what are you are going to do if do not have a calculator?" It was a bit like being told to look up a word in a dictionary that you did not know how to spell.

The recent Yarnell Hill Fire Serious Accident Investigation Report was no surprise when it stated that "Radio communications were challenging throughout the incident." Communications challenges can be found in almost all after action reports despite the millions upon millions of dollars spent trying to improve two-way radio design and the infrastructure that supports them.

There is no better example of radio communications problems than September 11, 2001 when firefighters entered the burning towers with what they knew were problematic two-way radios. When the order went out to evacuate many never heard the call.

Public Safety's move to digital radio systems is driven more by manufacturers than by those who use them. Digital radios have serious drawbacks that still keep the best of engineers perplexed on how to resolve. Fortunately, it is not a problem that cannot be overcome with more time and our money.

On the fire line firefighters carry radios that can hold as many as 210 specific frequencies. New tri and quad band radios can hold as many as 12,500 frequencies in digital and analog formats as well as differing system configurations including over the air programing. These radios can cost

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more than eight thousand dollars each and in many cases can only talk just a few miles from each other.

Some municipalities mandate by ordinance that building owners install bidirectional amplifiers so modern public safety radio systems will work in their buildings. Old radio systems did not have this problem and did not cost nearly as much.

Global Positioning Systems are becoming more and more common as the price comes down and the reliability increases. But civilian GPS is not exact. Distance and location can make a big difference in a fast moving wildfire. Moreover, navigation and communications systems dependent on cell towers frequently fail in mountain terrain.

I was recently given a tour of a new fully equipped police vehicle. Between the radios, computer and supporting electronics the car is worth more in electronics than vehicle. The problem seems to be that every time you turn the car off the system needs to reboot taking time and creating a safety issue. The obvious solution is to leave the car running but what about the suspect crashing out of the back seat or the guy who thinks it is a good idea to take it for a spin around town? (Yes, this can and does happen.)

The day of giving used fire vehicles to volunteer departments or to Mexico is coming to an end because only municipal departments have the trained staff and budgets to maintain them. All too frequently when the "brain" fails the truck stops altogether. The days of "pull and pump" is quickly changing to "Where is the fuse box?" or "I need a tow truck." This does not bode well during an emergency.

One of my observations about technology is it frequently requires power and training on how to use it correctly. How can we keep up with these machines that are quickly taking over our lives?

Batteries remain the demon of most all electronic equipment. When your electronic device fails what do you do? They do not have Radio Shack stores in the mountains. Next day on demand delivery does not work when you can't access the Internet. Cell phones are dependent on the system backbone which is limited in remote areas or inside many large buildings even in the metropolitan environment. Potential failure is obvious.

There once was a time during the early days of the steam locomotive when people were afraid to ride the trains because they thought the speed would kill them. Today there are trains that exceed 200 miles an hour. Indeed technology has come a long way and has improved our lives immeasurably but at what cost and real need?

The nice thing about a horse is it can find its way home on its own despite the incapacity of the rider and with no batteries or GPS navigation. Perhaps the horse was not such a bad thing after all.

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