

## Understanding Why

By John A. Dal Pino, S.E.

It has been my personal observation, albeit in a limited geographical area, that some people are clearly not understanding the COVID-19 public health messages inundating all of us. Either that or the messages are just too opaque or generalized (one might say dumbed down) as to leave many people bewildered and confused and trying their best, but not understanding why. No need to go into the details and the many possible examples, but we have all probably seen some misunderstandings. Most people are wearing some kind of face-covering while out in public. Still, I often see people briskly driving alone in a car while wearing an ordinary bandana around their face (not an at-risk individual wearing an N95 surgical mask) with the windows rolled up, and the AC turned on. I suppose this is better than not wearing the face-covering, but it seems like the health messages regarding cause-and-effect and the critical do's and don'ts are just not getting through. I keep thinking that what is needed is to have an engineer presenting the message!

A world without building codes would be like a world ignoring the COVID-19 virus and the associated public health messages, and just letting nature take its course. During extreme wind or earthquake events, or in heavily loaded buildings, some buildings would collapse and some buildings would stand. The smart people who hired a competent structural engineer to find out *the why* would do the best since they would have the soundest information and employ best practices. Some other people would be fortunate and survive, mostly by luck.

The leaders of most countries decided long ago that having and enforcing a building code was necessary to avoid large numbers of casualties in building failures and to maintain public confidence in the built environment. Over time, society developed a large number of rules to guide structural engineers in the design of buildings in response to evolving conditions and new knowledge. Apparently, engineers or their professional organizations could not be left up to their own devices and figure it out for themselves. I am not sure I agree with this conclusion based on our excellent collective record, but that ship has sailed as they say. The building code provisions have become so numerous and pervasive that I suspect that many structural engineers do not truly understand what these provisions are intended to prevent and just blindly follow them. Whether the “bad” result is avoided by “meeting the code” is someone else's concern. Some engineers do understand the “why.”

There is a parallel with COVID-19. There will be a new normal until either an effective vaccine is developed or society just gets comfortable with the health risk (that didn't hurt too much did it?) and reduced economic activity. It will involve many rules for the workplace and social interaction for all areas outside the home. Staying home if you are sick (no heroes at work anymore), waving instead of shaking hands, maintain physical distancing, wearing a good mask at times, and more will define the new normal. Unfortunately, like understanding the building code, some people will understand the “why” behind the rules and when we can bend the rules without increasing risk. However, most people will not know the “why,” and they will blindly do what they are told, take more extreme and unnecessary precautions, or skirt the whole deal (like some building owners do with the building



code). I can envision a comical situation similar to two cars coming face to face on a narrow street, where two people maintaining the recommended 6-foot social distance come face-to-face in a narrow aisle and freeze waiting to see who backs up first. The sensible thing will be to assess the situation, judge the risk as rather low, and just walk past each other quickly. Only time will tell.

The common thread through all of this, whether it is building or personal safety, is the need for superior knowledge, knowledge of the “why” and the ability to clearly and effectively communicate complex issues in a way that gets real buy-in and true understanding, not just blind allegiance and rule-following. The best engineers can do this. In a time of uncertainty and stress, quacks, snake oil salesmen, witch doctors, carnival barkers, and talk show hosts (have I listed them all?) are seen by many as trustworthy, real subject-matter experts, depending on where one gets his or her information.

By “best” engineer, I do not mean the smartest since there is more to it than just knowing everything and having it locked up securely in one's head. Or necessarily the smoothest communicator, since talk not backed up with knowledge and experience (the “why”) leaves people confused. My personal experience with COVID-19 messaging is that many politicians fall into this second category. So by “best,” I mean those engineers who understand the technical issues and can present the information clearly, logically, and in a manner geared to the experience and knowledge of the listener. One size does not fit all in this regard. The engineer needs to use a lot of communication tools and styles to tell the story effectively and be able to change the approach on the fly. Perhaps, at the end of this, engineers will shine as experts and show their true worth as honest brokers without bias or personal agendas. An industry dedicated to helping their clients make informed decisions after understanding the hazards and risks, the options available to them, and what state-of-the-art engineering can achieve – collectively, the why – will help protect life and property. ■



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