CHIEF'S FILE CABINET

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Damrell Was Right

John Damrell was right! He once made a statement that if you want to restrict the loss of fires in buildings then you have got to have effective building codes in place. He said it well before he had his catastrophic fire. He continued to repeat it long after he had his catastrophic fire. To the best of my knowledge he believed in that principle up until the day of his death.

But then again Damrell was a man who some might say was ahead of his time. I am talking about Fire Chief John Damrell of the Boston Fire Department. He was one of the organizers of the National Association of Fire Engineers that met in Baltimore Maryland in 1871 to create the organization that we currently know as the International Association of Fire Chiefs. What very few firefighters realize today is that he did not retire from his career as a fire chief. Instead he retired as a Chief Building Official.

Damrell who came from a family of builders knew that there were two ways to construct buildings, the right way and the wrong way. The year was 1870. That is over 125 years ago. I would be willing to bet you that if you went out and found a building in your town today that was 175 years old it would not be up to code. So if Damrell was right then why are those old buildings so wrong?

The answer is that they weren't wrong for their time. Increasingly the fire services knowledge of what it takes to restrict fire in buildings has increased. Probably more ink has been spilt on the issue of fire and building codes in the last fifty years than in the previous 200. Damrell gave a voice to a philosophy that has never run out of steam.

In essence he supported the idea that the fire service's knowledge of building construction was a significant part of determining the effectiveness of controlling major conflagration. Damrell's voice has been echoed over these many years by many fire chiefs who have repeated that message. They would include such folks in the past as Howard Boyd, and Robert Gain and Jim Tidwell and Wayne Senter today. All of these individuals have made significant contributions for improving fire prevention through their personal commitment.

What got me to thinking about this particular phenomenon was a combination of two things. The first was working on the virtual reality fire prevention-training program in cooperation with Wilson North Carolina. The second was working on a script for a movie about John Damrells' life. As I begin to look at the thought processes that Damrell had expressed it was apparent that is also visibly attached to the state of affairs of fire prevention today. I began to notice that there is an idea contained in his thought process however, that has been somewhat obscured over the passage of time. That idea is that good fire prevention makes good firefighters.

There those in the fire community that feel that fire prevention is for the sedentary and that firefighting

is for the physical. The reality is that fire protection has both a backbone and a brain. And, the degree to which those two can cooperatively work together we can be successful at protecting life and property.

When preparing the curriculum for the virtual reality program we got into a discussion about the number of firefighters who actually were physically killed in the line of duty while combating structural fires. It was noted that many of the case studies of such events have come forth with recommendations that are consistent with the point of view expressed by Damrell. Without belaboring any specific case study, it is difficult to read any of them involving firefighter's death in a structural situation without reading comments about the necessity of inspecting buildings, to having an effective prefire planning program, understanding building construction and possessing knowledge of the building before an event actually occurs. The manner in which these things are accomplished in every fire house in the country has a direct connection with the level of fire fighting expertise being demonstrated by any given firefighting agency.

Former Fire Chief Lloyd Layman coined the term "RECEO". The acronym stood for Rescue, Exposures, Confinement, Extinguishment, and Overhaul. This acronym went on to characterize the fact that ventilation in salvage operations must be considered at various places along the way conducting a size-up in a major fire. If one took the table of contents of the fire code and did a little comparison you might be surprised to find out that every letter in Layman's acronym has a corollary in the fire code.

For example, rescue, which often involves itself with forcible entry, is parallel to all of the information of the fire code regarding the means of egress. When people find themselves inside of a building that is on fire, one of two things happens. They either get themselves out safely or a firefighter must come in and find them under very dangerous conditions. Every component of the chapter on exit has an implication with regard to rescue operations. The type of exits and the type of doors that are put on exits are an essential part of creating an environment in which individuals will either survive or become victimized by a fire.

Exposure protection: that is really nothing more than property separation in many cases. If one reviews the fire code and learns more about such things as property set back, how the design of exteriors of buildings are allowed or disallowed and the ability for a fire department to obtain access to the building all spell themselves out on the fire ground as exposure considerations.

The topic of confinement takes up an entire section in the fire code with respect to those building construction features that limit, restrict or otherwise impact that size that an area can be to contain a fire. A quick review of the definitions you find in the section on building construction clearly indicates that confinement is not an accident waiting for us to figure out. It is a purposely planned function of the building code and the fire code to result in specific areas being segregated to one another and specific

techniques being put into place which restrict the flow of smoke and heat from one portion of the building into another. Confinement therefore often has to do more with how a building is put together than the placement of hose lines.

There is little doubt in anyone's mind what extinguishment means. It is putting the water on a fire. A standard term that is used by most firefighting agencies is called fire flow. The fire code has an intimate role to play in the calculation of estimated fire flow once a building has been designed and built. Knowing about all the components that go into the calculation of fire flow is an important consideration for how to use that fire flow at the time of a major emergency.

Overhaul is not something that a person thinks leaps off the pages of a codebook. Yet, there is a corollary here. Overhaul literally means taking care of what is left of the building after the fire has been extinguished. This deals with such things as the commodities that are allowed to be stored in buildings, the amounts of those commodities and the built in dangers to firefighters who are attempting to resolve the status of the commodity after it has been damaged by fire. This is especially true with such things as hazardous materials.

Then the two that Layman left off to the side have their comparisons also. Ventilation is a function of two things. Openings in the building and construction of the roof and windows. Knowledge of where those openings are in relationship to the floor of smoke and knowledge of how the building has been put together which will allow you to actually achieve vertical ventilation. Solutions are not always at the end of a pike hole or affected by the rattle of a chain saw they have to do with how a building is put together. They are often features that are built into the building prior to the fire or they are missing entirely which result in the firefighter experiencing difficulty in coping with the emergency.

Back in the days of John Damrell there was stress to try to create what was called a "fire proof building". Well, if history has taught us anything it is the fact that there is no such thing as a fireproof building. There is fire resistance. There is fire spread. There are features of buildings that either contribute or restrict the development of a fire but there is no such thing as a fireproof building.

Therefore, ever since the days of John Damrell, individual firefighters have been climbing in the cabins of fire apparatus to respond to buildings in which a source of heat has resulted in ignition and the spread of a fire has resulted in an alarm. It could be stated without too much fear of contradiction that those departments that have effective fire prevention programs do not seem to experience the frequency and severity of major fires than those that do not. However, what is not so commonly expressed is the fact that those firefighters who are intimately familiar with what the code says about buildings are often better firefighters than those that aren't.

The fire service could do a lot for its capacity for incident management if it focused as much time and

energy of understanding buildings as it does in understanding incident command. And, while this is not meant to denigrate the need for a high level of incident command, it needs to be stated that an incident command team is standing on the outside of the building and failing to penetrate to the seat of the fire is going to result in a terrible loss to the community no matter how good they look.

Unfortunately for his reputation Chief Damrell got beat up a lot for believing in those principles that long ago. He suffered politically. But, without his commitment to the concept I doubt that he would have gone back as a chief building official. Damrell was one of the contributors to the creation of the modern building code.

It is our responsibility as members of the current generation to respect that legacy. It may also include the fact that we need to make sure our fire officers are as knowledgeable about fire prevention as they are about fire ground operations in order to improve both the level of service that we can provide to our communities and simultaneously reduce potential for the loss of life by combat firefighters.

A building that is in total compliance with the fire and building codes is going to be a strong candidate for survival when a fire does occur. And, that same building if it remains in code compliance is the safest place for the firefighter to apply their trade. On the other hand, in the words of Charlie Rule – "all buildings get burned down according to code anyway!