

# What Do You Do for a Living?

By Barry Arnold, S.E., SECB

The most pressing problem facing structural engineers is a serious lack of understanding regarding the importance of their profession to society. The root cause of the problem is that many structural engineers do not know exactly what it is that they do for a living.

For years, when asked what I do for a living, I delivered a memorized monologue of oversimplified, generalized, and succinct statements outlining my role as “helping the architect’s and owner’s vision become a reality.” Regardless of whether I was speaking to a group of fourth graders, a civic organization, or a client, my explanation was always similar – vague and uninspiring. Frequently, my explanation included phrases like, “I design beams and columns.” On other occasions I would say, “Behind this wall is a structural column – and I designed it.” When I was feeling unusually bold, I would say, “I make buildings stand up!”

Each answer was technically accurate, but drastically missed the mark by not highlighting the importance of what I did. With explanations like these, it is no wonder that structural engineers are not the focus of popular television shows like doctors, attorneys, and law enforcement and rescue personnel.

Over dinner with a group of structural engineers of varying ages from around the country, the conversation, as it usually does, quickly migrated toward the usual laments: low fees, no respect, no clout, etc.. I have heard the list many times before – nothing new was added this time. Numerous problems about the profession were brought to light, and each participant attempted to diagnose the cause(s) and offer a remedy. Our efforts were to no avail. As usual, the conversation took a circuitous route, ending with an official synchronized shrugging of the shoulders and deep sighs indicating a general agreement that something needs to be done, but nobody knew exactly what to do or where to begin.

In the midst of this woe-is-me session, it became apparent to me that the source of the problem (and its remedy) lies in the fact that structural engineers do not have a deep appreciation or understanding of the importance of their services to society.



They do not understand how vital they are, as individuals and organizations. In that sense, structural engineers are their own worst enemy.

I do not believe that there is a particular demographic that can be blamed for the problem – it is evident among senior engineers and junior engineers; eastern, western, and central states; Ivy League graduates and state university graduates. The pandemic crosses all racial, ethnic, and gender boundaries. No one group is responsible, and no single group will be able to fix the situation. The only chance we have is to work together to increase the relevance of the structural engineering profession in society’s eyes.

Again, as a profession we really do not know what we do for a living. We have become confused into believing that we are, in some way, made up of a combination of various external elements that we call our job. But, we are not our educations, tables, books, or volumes of computer output. Nor are we our calculations, specifications, or drawings. Those things are valuable tools that help us move toward our primary goal: to save lives – period. To save lives is the fundamental purpose and reason why we exist as a profession.

Until we all understand this, structural engineers will always be relegated to sitting in the back seat, playing bit parts, and receiving what someone else deems “sufficient” compensation for our efforts. We can glamorize our profession through the written word and imply that engineers are smarter than other professions, but until we are willing and able to articulate firm statements about what structural engineers really do, we will not make any advancement, and may in fact decrease in stature.

If you want to have more respect, stop selling your services as “designing beams and columns.” Instead, emphasize that

your role as the structural engineer is to save lives.

If you want to be appreciated, stop occupying the back row in meetings and sitting quietly. Instead, highlight the significance of the contribution that you are making to the project by being on the front line, contributing to the design and performance of the structure in an effort to save lives.

If you want higher fees, stop selling your services as “the lowest bidder.” Instead, rehearse with your clients (and their clients) the fact that correctly designed buildings will reduce the chances of a catastrophic failure that may lead to someone’s death.

If all of this is too drastic a paradigm shift for you, unfortunately, you may be part of the problem. Our profession has become marginalized because it has become commoditized. It has become commoditized because there are too many “structural engineers” who believe that their primary purpose is to design beams and columns.

For the longevity, health, and honor of the structural engineering profession, I strongly recommend a moment of self-reflection. Before you punch one more calculator button, tap another computer key, or click a mouse, ask yourself this most important question: “What do I do for a living?” It is time that we quit seeing ourselves as merely designing beams and columns, and start recognizing and proclaiming that we save lives for a living. ■

*Barry Arnold, S.E., SECB is a Vice President at ARW Engineers in Ogden, Utah. He is a Past President of the Structural Engineers Association of Utah (SEAU), serves as the SEAU Delegate to NCSEA, and is a member of the NCSEA Licensing Committee. Barry may be reached at [barrya@arwengineers.com](mailto:barrya@arwengineers.com).*

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