There’s a few things I learned on the 24th year of my life, one of which governed how I managed my time: Experience has nothing to do with doing – only dissecting. That is, just having a hobby or job doesn’t guarantee you’ll gain any particular skill in said hobby or job. You can ride a bike a thousand times and still not know how to pop a wheelie or even ride without using your hands. Neither is a particularly impressive ability, but both require analysis and practice.

My employer follows various national and international guidelines set by organizations whose intentions and governing boards are completely nebulous to most of us. They created a wagon to pull us around, and we happily sit inside without needing to know what went behind the creation of our wagon. The box in which we sit, the wheels that roll us about, the handle they use to lug us along – these are all things that are part of the wagon that needed meticulous analysis, design, and professional crafting. We don’t need to know any of the inner workings to be included in the ride. We laugh and celebrate and regret and fight each other as we try to enjoy the ride. I realize it’s easy to take these operations for granted. When you take something for granted, you miss out on (what I find to be) the true experience.

I had my realization while dissecting something my industry calls “lugs”. These lugs are pieces of metal (usually aluminum or copper) that serve as a medium for customers to plug their building’s power cables into our company’s metal boxes. Of course, that’s the simple version. And it comes with many questions: Can you use metals other than aluminum or copper? Why is there a limit to how little or how much metal is needed and who says so? Can we use something other than metal? Is this restricted only to power cables? We can go on with these questions for a while. Decades of design went into making this part of the industry that simple to explain, and I am indirectly and aimlessly grateful to everyone who made it that simple. (I miss on the experience of appreciation by not researching who these innovators are exactly.) And like any equally complex rabbit hole, this goes much deeper – to the point where a company can actually make a job position out of analyzing and practicing how to implement these metal clamps.

The realization I mentioned earlier – the importance of dissecting your hobby or job – is easy to miss because many things are made very simple. For instance, my colleagues and I, as studied engineers\*, know that 600 AWG cable can withstand about 420 RMS amperes before it fails. Most of my readers won’t understand this, and that’s okay. You don’t need to know what this means. What’s important is that there’s so much meaning behind each word. The mystery can be unrooted by the reader’s curiosity: What even is 600 AWG cable? Why can it withstand 420A? For what material are we talking about? (spoilers: the standard is usually copper because of its glorious conductivity compared to most non-precious metals) **How** do we know a cable can take 420A? And, if, instead we use a plate of metal instead of a cylinder of metal, will that value be different? Does it matter? And, lastly, what do we mean when we say “fail”? Will something shatter, melt? Smoke? Explode? Does **that** matter? And if I pay $240 USD for this organization’s 1,200 page tome on the subject, why can’t I know this easily? Who decided how to standardize this bit of knowledge and how? Are these determined by scientific limitations or assumptions made by people who deemed the numbers right? Maybe both?

I don’t know the answer to half of these questions. But it’s important to me that I ask them. And I let the questions run by without any answers, because these are questions for people much smarter than me.

I realized much of this during a leisure walk during my work day. If I hadn’t calmly taken that time away, I probably would have taken most of this for granted. Looking deeper is important. You find that each sentence comes with hundreds of unique questions and problems. They open up the floor to further comprehension, and faults in design, and most importantly **discussion**. You find problems that may have solutions, and pursuing those solutions makes you another class of wagon-rider. You’re looking at the wheels, the box, the handle. Look beyond the wagon and you may notice the grass, the sky, and hopefully, your destination. You hop from wagon to wagon until, if you wish, you’re one of the people pulling.

I will *ask,* even if my job doesn’t ask me to. I implore you: think further about job or hobby, and try to see what makes it so easy or hard. You will, then, have much more to feed your natural human curiosity. Once you’ve learned, share. Someone else will have learned something different that can build on what you’ve learned.

\*I say “studied engineers”, but this is a piece of knowledge that is supplied by many internet sources as well as the 2014 National Electric Code, a $240 USD tome that states all of these things as fact without much explanation. If you, for some reason, own a copy, you can find this tidbit in NEC Article 310, Table 16.