



A Fight for Craftsmanship

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A few months ago my shop manager and I went to view a CNC machine for our millwork shop as we had heard over and over the wonders and advantages of these new machines. A CNC machine is basically a computer-controlled router; they range in price from a few thousand to hundreds of thousands of dollars. The one we saw cost \$300,000 and we probably wouldn't spend less than \$150,000.

The owner of the machine bragged to us about what the machine had done for him. He had an enviable business. His clients were the top builders and architects in the city and his reputation had been laid by the founder and previous owner from whom he had bought the business five years before.

Interestingly, the previous owner had never bought a CNC and the new owner boasted that his production hadn't slipped and that he used fewer workers than the original owner. His tone implied that the previous owner had been a fool for not buying one.

As we watched the large router make door parts – shaping, routing and boring the various pieces – it was quite entertaining. One man operated the machine from a computer pad a few feet from the table. He walked back and forth, blowing away excess sawdust, pushing numbers on a keypad, watching the monitor, waiting, and then eyeing the machine as it worked.

The owner said it took about 20 minutes to make all the parts for a door. While a part of me rolled my hands together like an evil scientist for the savings we could realize, another part of me was more curious and anxious. What would a machine like this do for our shop? It would seemingly increase production speed, but what about quality and the level of craft?

As I continued to prod and probe I discovered that the machine replaced about five workers. It worked over time without complaint, it was never sick – all the advantages of a machine, brought to the humble woodshop. The truth is that the CNC machine is making its way into more and more shops. The price has come down. The machines have improved and can do more. Even the small local cabinet shop can employ a CNC machine with a great deal more effectiveness than ever before. Good news, right?

Well we decided not to buy a CNC, at least for the time being. The reason wasn't just financial, but also the fear that we would kill craftsmanship if we moved a CNC into the shop. I'll admit, I'm an idealist, but truthfully I don't know if I can handle the temptation of a CNC machine yet. Our shop has become a place where craftsmanship is revered. We still use hand tools, we have carvers, we lay out our work with pencil and compass, we build templates; we're old school. I fear we wouldn't be if we bought a CNC router.

I recently wrote a book (along with my friend Christine Franck) on the architectural interiors of the Winterthur Museum called *Traditional American Rooms*. It is an in-depth study/handbook of about 40 rooms at the museum, both Georgian and Federal. My company has also been fortunate enough to reproduce a number of these rooms for our clients. We have discovered that there is a level of detail that cannot be achieved with machines. Furthermore, to complete these rooms takes a level of patience I fear the CNC snuffs out.

Craftsmen today are way too reliant on tools and machines. We have actually forgotten how to problem solve. I tell the story of a carpenter who returns to punch out a job where a piece of shoe mold has come loose from the base. He spends 20 minutes unloading his tools – compressor, hose, nail gun and extension cords. He shoots in the nail (two seconds) and then spends 20 minutes loading his tools back up. What takes 40 minutes could have taken four seconds if he would have merely grabbed his hammer and nailed the loose trim to the wall.

Tools are awesome today. Not only can they do more, but they also look cool. The miter saw (a saw used to cut crown and trim) has evolved from a simple chopping machine to one that tilts, turns and twists to make cutting crown easier than ever. This machine has changed dramatically in just the last 10-15 years.

These new tools make the craftsman lazy, causing us to forget how to cope the corner of moldings and how to nail things so they hold. Too many times I have seen carpenters nail a gapped board an extra 10 times instead of making the cut right the first time. Instead of approaching a job wondering how-to, we go in wondering if we have a tool for it.

The fear with the CNC is compounded in the shop. Not only does it make you lazy, you also forget the calculations and math that are involved in the geometry of architectural parts – the curve of an ellipse or the proper geometry of a column.

The temptation is to get rid of the most expensive men, and keep only the ones you need to run the machine. When you do this, you immediately become a slave to the machine. I asked the owner of the shop, "Who knows how to lay out an ellipse, or the proportions of a column, all the formulas and details?" "I do, and I'm the only one who needs to," he proudly claimed. I feared that the new owner of the high-end mill shop had bought a company full of craftsmen and turned it into a company limited by the capabilities of his new machine. And I feared that we would be tempted to do the same.

The challenge today for craftsmen is to use machines to speed production and increase efficiency yet still hold on to the craft and in fact use the extra time not to pad profits but to train and increase the quality of our work. Craftsmen must fight to make sure to never use a machine for what could be better done by hand. The fight for craftsmanship is a battle against the easy for the long-term good.

My experience from studying and building historic woodwork is that the small fine details make the difference between good and great. The details that matter are always better when they are cleaned up and refined by hand. The machine today is determining the limits of the craftsman's skill. This is the tail

wagging the dog. The craftsman is the master, not the tool. The CNC machine, or whatever machine, should be a tool in the hands of a master – not a novice in the hands of a tool.

The future of fine quality in architecture production is reliant on quality craftsmen. The machine will dumb down architecture, limiting creativity and making quality too expensive. Carving is an example of this. Carving today is a lost art, simplified and reduced by the machine. Though, I'm sure at first, the advent of the CNC carving machine reduced the cost of carvings, it also reduced the quality. Today the brackets and corbels from some of the large "carving" houses are lifeless and thick. The beauty and artistry of carving are lost. The twist of a leaf, the depth of relief – the magic and life of a bracket have been transformed into a plastic appliqué that looks fake. It stands as an example of the death of craftsmanship.

To my craftsmen brothers, I cry out, "Fight on!" Rage against the machine! Architects and builders, please don't encourage mediocre work. Don't encourage the lifeless. Push us so that we will run. Keep us from getting lazy. Fighting for fine craftsmanship is a worthy fight.

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