

## Chapter 1 My nose is still crooked

I don't think I've ever owned a tool I haven't used to do something it wasn't supposed to. Can you believe this book was originally pitched to me as a guide for you to do as I do? You shouldn't do as I do. No one should. Think of this more as a set of cautionary tales. Actually, that sounds overly dramatic. I've never lost a limb or anything. I can still count to ten on my fingers, but I can probably count to 11 if I use the scars on hands instead. The kid version of me probably thinks that sounds cool, but adult me would prefer to have the fine motor control back. Speaking of kid me, that's probably where the trouble began.

I have a very foundational memory to do with my nascent career making stuff circa age 7 or 8. I'm crying cause I can't fold a piece of paper in two, my Dad comes in to check on my and doesn't understand. We were too poor to have "the channels" (cable), but my poor ol'Dad would sometimes get friends to record stuff off the channels and then we'd watch it as tapes. I don't know how the economics worked out that VHS tapes and straining relationships with friends and family who could afford cable was cheaper than getting cable, but somehow it worked out I guess. My father also ran a pirate movie empire so maybe that's how. So anyway I was watching some children's program and there was a guy doing origami. Normally I would not have had the materials etc etc but since this was a video recording young me could pause the program and go get the things I needed. I was very excited. After gathering all the materials I sat down to begin. This was going to be easy. The nice man in the video started by saying in his soft children's presenter voice "we begin by folding the piece of paper in half, right down the middle" and then he did. So I pause the video, take my child hands and attempt to duplicate. It doesn't fold straight down the middle. I mess it up and it folds somewhat crookedly. I unfold the paper, smooth it out, and attempt again. Again, crooked. I try a third and fourth time. All crooked. Maybe I was underslept. Or needed food (I still have difficulty recognizing when I need food). For whatever reason, child me couldn't cope with the fact that I wasn't able to fold the paper correctly. I broek down into tears, eventually my father comes to check on me, but he doesn't understand why such a thing could be upsetting, which adds to the sting and causes the incident to become a permanent memory.

Looking back, I think my frustration was the gap between knowing what I wanted my hands to do, and not being able to get my hands to do it. It might have been the first time I was face to face with the gulf between my ambition and my reach. I like to think this incident was what led me to go on and develop the uncommon level of manual dexterity I have nowadays, I have no idea. A similar thing probably happens to other kids and they decide that painting or model making or origami is not for them and they move on, but obviously it was important to me that I WAS good at making things. Even at that young age I mostly identified with the mad scientist or inventor characters in various kids cartoons, so being forced to come face to face with the limits of my pudgy digits was upsetting, and led me down a path of wanting to become good at making things. I didn't have the same reaction to my poor physical ability, or my inability to carry

a tune, or my social awkwardness, it was the inability to fold a piece of paper cleanly in two that shook me and made me want to git gud.

Cut to a few years later and I have actually gotten somewhat good at making things. Somewhat good. I was about ten years old when the incident with the lean to shed type thing happened. It was built from random rotten sheets of plywood and such. I can't remember where I found them. My parents had bought me a toy tool chest thing, but with real working tools in it. A tiny hammer. A tiny saw. Etc etc. Probably one of the best things they ever got me, life direction wise. I used the tiny hammer to punch the nails through the rotten wood I used for this shed/fort/hut, which was easy, cause like I already noted, it was rotten. Having finished making this thing I wanted to know how sturdy it was. So I climbed up on top of the roof. Gingerly I tested my weight on it. Seeing as it was able to hold my weight standing still, I decided to see if it could take my weight while moving around just a little bit. This is a bad way to test things. Where do you stop? If you just keep going... A couple of years ago I remember a friend of mine showed up one day with the worlds worst mustache. I asked him "Why?", he said "I wanted my 'stache to be smaller, so I just started trimming it until it started to look a bit too pedophiley, then I stopped". That is a terrible way to trim a mustache. You need to stop long before you look a youth pastor trying to get kids to play Super Smash Bros in the back of a van.

So anyway, the roof of this shack I built seemed like it could take me moving around a little, so I start to move around a lot. Then, proud of my handiwork, I started to stomp on the roof, and from there to try jumping on the roof. Well, I say "jumping" but jumping implies that more than one jump occurred. One jump was all it took before the shed collapsed underneath me. In the confusion of collapsing timber, some random piece of lumber was levered by my falling body, cartoon style, directly into my face. I remember the white hot pain and confusion. I ran into the house, my parents couldn't decide whether to comfort me or to scold me, so settled on a mish mash of the two. If my kid had just broken their nose I would probably have taken them to the hospital, but the 1980's were a simpler time. My nose reset itself ever so slightly off, I still notice it in the mirror sometimes, but either it's not actually that bad or my eye software has gotten so used to it and edits it out.

Sometimes I will watch my own son climbing stuff and trying stunts with impromptu trapeze equipment he has made from ropes and such he has found. Sometimes, rarely, he falls and hurts himself. But he always climbs back up the ladder or tree. Sometimes with the dried tears from the previous failure still visible on his face. I was like that with making stuff. Still am. Other than an injury that makes it physically impossible, I don't think I will stop making stuff.

Neither of my parents were really good at making things and I don't think they really understood the extent of the urge in me. That toy tool chest they got me represented the only toolbox in the house. Ireland is starting to have more of the DIY culture America

has had for a long time, but it was barely existent in the 80's when I was small, especially not in the tightly packed row houses I grew up in. Child me would often come across American books about making stuff where they'd tell you how easy it was to acquire all the necessary materials at your local hardware store. Ha! My father was definitely not a DIY type of guy. He once knocked a spectacular crater in the tiny guest bedroom wall trying to hang a shelf. To be fair, drilling into masonry is tricky sometimes, but unlike me, I'm not sure he knew that before he started. I mostly KNOW how dangerous a lot of the stuff I attempt is before I try it, but then I do it anyway. How does the meme go; The risk I took was calculated, but man, am I bad at math.

A core memory of mine from being a young teen is a car breaking down outside our family home. The stranded motorist asked my father if there were any tools he could borrow. Dad disappeared inside our house for a while and emerged; with a hammer and a hacksaw. Luckily by the time he had arrived with the implements the guy had figured out how to restart his engine by himself and made his escape. I asked my father afterwards what he thought one might do to fix a car engine with a hammer and a hacksaw? He didn't know. I don't want to give the impression my father was dull, he comes across as quite smart and charming, just don't ask him with help assembling your Ikea chair if you want to be able to sit down any time in the next week.

I used that hammer and hacksaw, I used them an incredible amount. There were a lot of fantasy and sci fi films in the 80's, Krull, Conan the Barbarian, Red Sonja, the Dark Crystal, and while young nerd me loved them all, I was powerless to recreate the artifacts from them. But then there were the Mad Max films. They presented a future where the bombs had dropped, and everyone was rifling through the past and trying to make stuff with whatever was lying around. I COULD emulate that. The post apocalyptic future looked a lot like the floor of my bedroom, with random steel scraps collected from the side of the road. I didn't have to have an Dwarven forge in the heart of a mountain to make things, a dusty patch of ground and an old discarded tire would suffice.

Unlike weapons, I could make armor without people becoming too alarmed (I did make weapons too, half of a broken shears wired into what you guys call a "closet rod" to make a spear type thing. The parents were not super thrilled). I acquired road signs to make armor, sometimes not even illegally, a random badnik would have done me the favor of stealing the sign already and dumped it in a bush by the nearby train tracks after the funniness of having stolen a sign wore off. Using the hacksaw to cut shapes out of the road signs was a different type of sweaty solo work for a lonely teenager. Then it would be the hammers turn to use masonry nails to drive holes in the plates so I could then wire all the plates together. Pipe insulation for padding held in place with electrical tape, and then black spray paint to finish. The result looked awful, just like something from Mad Max. When I think of all the hardship I could have been saved from if someone had bought me a drill or a jigsaw I shudder (the drill my father used to larp minecraft in the guest bedroom was borrowed). My smashed fingers were character building I suppose.

At around age 16 the dollar store Katana was another pivotal moment for me, but probably not for the reason I thought it would be. Why my Mum let me buy it I will never know. I don't think she knew it had a false "tang", but maybe. I tend to cringe pretty hard when I see photo's of guys with trench coats and Katanas on the internet, 'cause I was a hair's breath away from being one of them. Luckily my katana broke. The balsa wood handle fell apart to reveal that instead of a full tang, it had about an inch of thin nubby steel glued into a handle. Years later, I often get messages from guys who ask if my swords are "full tang", and I suspect it's because they've had experiences just like my one, and they can't tell the difference between properly welding a steel handle on and gluing a nub of steel to the cheapest wood available.

The "tang" is the part of the blade inside the handle. Ideally this goes all the way to the back of the handle, the pommel, but a lot of cheaper swords will have what's known as a "rat tail tang". A rat tail tang occurs when a person in an impoverished country is forced by global capitalism to spend all day spot welding lengths of threaded bar to the end of blades so a handle can be screwed on and if they ever stop there is a significant risk they will starve to death. Well, that child-laborer must figured out how to escape the factory or died still shackled to his work station while no one noticed cause when my dollar store katana fell apart it didn't even have the length of threaded bar on there.

I knew I was never going to convince my mother to let me buy a second one, not after she witnessed how much sliced up fruit was lying around the yard as a result of the first one, so I knew I had to fix it myself somehow. Yet again, my only tools were a hammer and a hacksaw. I don't know how long it took me to find the piece of aluminum pipe through scavenging, but eventually I found a fairly beefy pipe that the dehandled sword blade would fit down. If I had any advice for young Mike here, it would be that I didn't need to wait to find one that fit precisely, I could have found one that was slightly smaller, and then hammered it on the concrete outside till the blade fit down it, and the ovaled pipe would have been a better handle anyway.

The next step was cutting two short pieces from a length of copper pipe I found. These ones I did flatten a bit, it was the only way to get them in the aluminum pipe, either side of the sword blade. Then it was time for the other half of all my tools; I hammered the copper pipes sandwiching the blade down into the aluminum pipe, until the blade was secure. I still have that sword. It's in my fathers attic in Ireland and it is the ugliest thing you ever saw, but the blade never fell out of the handle, despite years of slashing fruit out of the air like the lonely neckbeard I was.

Speaking of being a lonely neckbeard slashing fruit out of the air, Irish Highschool equivalent was definitely a rough ride for me. As an adult I got diagnosed with some flavor of ADHD, but back in the day ADHD was just "being lazy". I was too unfocussed to do class work, but too nerdy to be interested in sports and such, there was a group of misfits I hung out with, but it wasn't by choice, all the kids no one else wanted to hang out with were squished together into one ship of the damned type arrangement. This

will sound really dark, but the Columbine Shooting was actually good for me. I started wearing a trench coat type thing to school shortly after and went overnight from being a target of torment to someone people were worried about (in case you are too young or don't remember, the early narrative with those assholes is they were bullied over the edge, this turned out to not be true, they were just assholes). Between the two, having people still hate you but being slightly afraid of you was definitely an improvement for me, even as that identity further hurt my chances of getting along with anyone.

Speaking of ADHD ruining my academic chances, when I look back at the amount of time the sword took to fix, I am shocked I was able to focus long enough to do it (there is a concept in ADHD that you are able to hyper focus on tasks, but I'm not sure I fully buy it). In the 90's Ireland finally had money and the Playstation 1 was out, so I severely damaged my academic career playing Final Fantasy VII and Soul Blade. Both games gave me a fetish for huge swords which would later launch my career. But somehow, while my homework lay discarded and undone on the floor in the face of getting all five endings in Silent Hill, I found the time to spend hours cutting copper pipe with a totally blunt hacksaw blade. I don't think there's anything I would spend as long doing for such little reward in my adult life.

Here started a struggle that was both a blessing and a curse for the rest of my life. I think a lot of people like watching my youtube channel cause of how much I do with so little, BUT this attitude of squeezing the maximum amount of utility out of everything was born of a kid in a bedroom in Ireland who didn't have access to materials, who would literally reuse electrical tape by putting it back on the roll after unwrapping it from the previous project.

This has haunted me to this day, and now as an adult, where time is money I still spend way too much time doing everything by hand with the simplest of tools. I have a Tig welder now, but I should have had one a decade earlier. The same can be said of the plasma cutter, which I only have cause Hollywood bought one for me. I look at other youtubers spitting out one video a week and think of myself as a failure, cause I'm still not comfortable splashing out loads of money on fancy tools.

I'm pretty sure I have pushed the limits of the humble angle grinder further than anyone else on planet earth, which sounds like an achievement but might just be a symptom of me refusing to learn how to use a mill and lathe. And I know people like watching me use analogue tape and pens and string to mark out fancy things and cutting them out with the grinder by hand, so I'm stuck at this awkward stage where I can't migrate past Macgyvering everything without losing the charm of my channel.

I get genuine enjoyment out of spending all day fixing a tool which would cost \$30 to replace. It makes me sad to throw stuff in the trash, even though I know that would be a better use of my time in 90% of situations where I'm considering patching a break in an extension cord for the tenth time. All of this can be directly traced to a kid in row houses

in mid 80's Ireland who had no ability to go buy new nails but had the time and inclination to use a concrete block and hammer to straighten out the nails he did have. Over and over again.

## Chapter 2 – The Crushing of my balls

It's hard to express what a system shock going to Art College was.

The all boys Catholic Secondary School (High School) I went to was very “institutional”, which is code for “prison like”. Not much input was required from me about... anything... and Ireland was kinda like that on a nationwide level. Hibernia always scores super high whenever anyone bothers to measure “Quality Of Life” across different countries, but whenever I go back there I look around at the endless row-houses and the grey sky, I really really hope that it's not crushing homogeny that turns out to be the ultimate secret to society wide contentment. I remember reading some place that when an infant starts forming memories is directly related to how much independence the child is given. I was not given any. I have no childhood memories earlier than about age 8.

I still think I was a little bit in this weird, not quite conscious, pre-person state all the way to age 18 when I landed in college. Either that or I mostly lived in my head cause no one criticized what I was doing there. That might sound like a win but that is not healthy either guys, you need to find your tribe to call you out when you're spouting – or thinking – bullshit. Some of the most cringe inducing videos on the internet are the result of lonely young men who spent too much time with only themselves for company. (I would once again like to thank the internet for not having the ability to easily upload videos until after I was mostly an adult).

The brick-in-the-wall, not-quite-person walking-around-in-a-daze image of myself I'm presenting may not quite gel with the previous impression of the weirdo at school. The misfit in me was definitely struggling to break free, but it was an uphill battle the entire way. And for sure it was easier to be weird by myself in my bedroom than anywhere outside. But Art College was Bizarro world. Whereas before I adopted a weirdo in a trench coat vibe as a sort of defense mechanism to keep people away, in art college it had the opposite affect. I was not used to getting positive feedback. I guess this is where I learned I am an extrovert? But only among groups of other weirdos. A selective extrovert. A selectrovert.

I was immediately distracted by two things in Art College; Ladies and Power Tools. Herein we will mostly discuss my adventures with the latter. It's almost impossible to imagine now, but when I started Art College in the year 2000, I knew I loved making things, but I had almost zero knowledge about any tools other than the random paltry selection I'd seen around at home. Without having the internet, the only way for me to

know something existed was to wander across a real one or to have seen a picture in a book. And there were crap-all books out about how to do what I do (Hey! Is this one of those books now?).

I actually did pretty badly at the actual course work of art college cause of getting distracted by the girls and the tools in what was known as “the sculpture yard”. It might have been a yard at some point. It had a roof by the time I was there. Looking back, getting distracted by that stuff was probably the best use of my time there. The actual coursework was largely pointless and designed to keep us from using up too much of the material resources of the place, which is fair, 100% of what I made there was garbage. If I had made it from paper instead of steel that would probably have been less wasteful. So, much like what turned out to be a disastrous choice in ladies due to inexperience, I also chose badly when it came to the tools, and wound up crushing my testicles the first week I was there.

I had never seen a “tin snips” before. It’s basically a giant scissors. Think a large, heavy, snub nosed scissors. It’s hard now to imagine how excited I got about the tin snips. Cutting metal – any kind of metal – was a giant pain in the butt at home. I would spend all day with a hacksaw. The tin snips made cutting thin metal super easy. But like any tool I’ve ever interacted with, I immediately started to use it beyond the scope of what it was designed for. There might be a tin snips out there that can easily cut 1mm thick mild steel. The ones I found could not. No one had shown me what an angle grinder was yet.

I found that I could torture the snips through the thicker material if I put an unreasonable amount of force on the handles, more force than I could muster by just holding the snips in my hands. I placed the snips upright and sideways on a table, and securing the piece I wanted to cut, I pressed my full body weight down on the handle NOT wedged against the table (see Fig 2). The problem with this arrangement was that in order to get my full body weight over the handles, my body had to be unreasonably close to the precariously balanced snips. It’s a wonder what happened next didn’t happen sooner, cause I spent like an hour cutting stuff that was too thick with this method before the inevitable occurred.

If you put your arms straight down in front of you and your hands one over the other, like you’re doing CPR, you may notice that your hands wind up hovering over your crotch. That’s exactly where the open handles of the snips were. As I would push down with all my force the thick material would protest, before giving way with a boom as the handles of the snips collapsed in on themselves, explosively clanking into each other like reunited lovers at an airport. Except for the last time when one of my testicles got in the way of their reunion.

I instantly broke out in a cold sweat, a kind of sweat that let me know some medical emergency had just occurred. I knew I was in trouble when I didn’t feel any pain. A little nauseous maybe. And thirsty. And cold. But not actually in any pain. I was alone at the

time, so I don't know if I went pale, but I suspect I may have. I had a bit of a sit down. Years later I would learn that these are the symptoms of shock. My brovery eventually did start to hurt, thank goodness, and then continued to hurt for maybe a week. I am ashamed to say that young me was such an idiot I didn't think to go to the hospital. But also young me healed much better and faster than current me I guess, cause that moron went on to father two children with no problems. I wear a big, heavy leather apron these days. It would be the last piece of PPE I remove when working with any kind of tool with kick, and now you know why.

When my balls healed I still needed to cut the steel. And this time I tried asking one of the sculpture technicians about it. So that's how an eighteen year old who never handled a power tool in his life got handed a nine inch angle grinder and told to work away. Angle grinders are probably one of the simplest tools on the planet. It's just an electric motor with a set of bevel gears to rotate the spinny action of the motor by ninety degrees (the "angle" in "angle grinder"). There's handles to hold it. A switch. And a way to lock various types of disc into it. That's it. It's entire job is to spin.

They come in various sizes though, the two most common sizes being 4 ½" and 9", which refers to the size of disc they take. There's loads of types of ammo for grinders, but the most common type are generally a hard disc of abrasive compound, fat for grinding lumps off steel, thin for cutting through steel. It's insane that young me was handed the larger one. An inexperienced user can literally be dragged around by them. When you turn the grinder on you can feel the force of a 9" disc spinning between 6000 and 7000 rpm trying to pull the grinder out of your hands. And that's before you've even touched the steel with the spinning death disc.

Years later when I did an actual welding course I finally got a safety lecture about grinders. In the town where I grew up there's a racecourse. Part of the safety lecture was telling us about the guy who died when they are building the track. He was using a 9" grinder to cut the end of an I-beam (steel girder). A guy in a forklift reversed into the other end of the girder, twisting the beam while the disc was halfway through it. One of the key features of the standard cutting disc is that it's brittle, so it exploded. The disc, no longer round and having a jagged edge, was now impossible to control, and sank thirstily into this poor guys inner thigh, hitting an important artery. It must have looked like something from a Sam Raimi movie. He was dead before anyone could do anything.

Cut to a couple of decades later and 18 year old me has just been handed the same tool with no guidance beyond I should wear goggles and clamp the piece I'm working on down to a table. That's not terrible advice, but no where near comprehensive. I barely mention things like goggles and clamps in my videos cause I foolishly assume they're self evident, but writing this, ruminating on my idiot younger self, I realize these might bear emphasis. The goggles I was thrown should only ever have been thrown away. While the point of safety glasses is to stop stuff from hitting your eye, there must be an interesting intersection of lines on some graph where it shows a point after which it gets



more dangerous to wear them, that point being where the goggles are so scratched you CAN'T ACTUALLY SEE OUT OF THEM. The pair I caught out of mid air were basically opaque. As I put them on and fired up the grinder I got nervous and sweaty, so the goggles fogged up even more. I was as blind as an elderly motorist ploughing through a crowd of pedestrians. Keep your safety glasses scratch free and tight to your face kids. It's a miracle I'm here to write this.

Luckily, and this was mostly luck, I did actually have the work piece clamped to the table properly. If I had not there is a serious chance I would have died that day. A loose piece, grabbed awkwardly by a grinder, can fly across a room and Final Destination whoever is standing in the way (pretend I used "The Omen" as a verb there if you're much older than I am. I don't know what the zoomer equivalent would be but I'm sure it will make me unfairly and irrationally annoyed). I could see a LITTLE better once I actually started cutting, cause of all the sparks. I think the sparks are the thing that really spooks first time users of angle grinders. In the real world, we tend to think of something throwing off tons of sparks and fire as indicative of either something going disastrously wrong, or fireworks. I like to think of grinders as fireworks, and to continue that comparison: The Noise! Angle grinders are extremely noisy in an enclosed space. I was not handed ear muffs, but I should have been. Nor was I given a respirator. While "dose makes the poison", and using a grinder every now and again won't kill you, this was the start of me spending the rest of my life grinding, and if there's a fine dust you can inhale a lot of that doesn't eventually give you cancer, I've never heard of it it. Black snot for days after.

I realized after I was done that it was probably a mistake to try this while wearing my long neckbeard coat. It probably looked pretty funny, but if the sparks had lit up the coat... well, the real tragedy is this was long before everyone had a camera in their pocket, so the ensuing enflamed flailing wouldn't even have been on film. After what felt like a lifetime I finally cut through the sheet steel. My arms felt sore cause I had been holding onto the grinder for dear life and I realized I hadn't been breathing. I objectively knew that this sundering had taken less than a minute, but that was enough, my future had been sealed.

I guess a lot of people must have an experience like this and decide that maybe cutting through steel isn't for them. I sometimes ruminate, usually after I have cut or burnt my hand yet again, why that wasn't the case for me. I like to describe my younger self as an angry young man. But what, you might ask, would I have to be angry about? I think that is the answer in and of itself. The suburban row houses I grew up in felt extremely safe. I spent all day every day surrounded by objects designed to be used without being thought about. The entire environment, from the concrete slab of the footpath to the trimmed grass of the common green, it all made me feel like I was being kept in a zoo. Or like an elderly ladies pet cat.

The angle grinder felt like escaping the zoo. Like the cat, having escaped the elderly ladies jungle of throw cushions, having a hair raising encounter with a dog outside. I won't go as far as to say it made me feel alive, but it made me feel... more alive than I

had been feeling. So I was hooked on the feeling this tool gave me, an electric motor with handles, like a much more grown up version of the ones I played with as a child, a motor that would pitilessly and messily unmake my meat if I lost my grip. I was hooked. I soon figured out that the 4 ½" grinder was much easier to use, and could get more delicate results, these days I use it as a one handed tool and have the scars on my off hand to prove it (you normally hold the workpiece in your off hand, so it's the one that gets the abuse when abuse is being offered).

The next step was to learn how to weld. This was a trickier process. I don't think I did anything in art college that current me would call welding, but I did find the "on" switch on a (stick) welder and occasionally would mess up two pieces of steel until they became a single uglier piece of steel. The piles of molten slag I left behind would make anyone who actually knew how to weld weep. And I was one of the better welders there. Shuddersome. I remember being told I broke the Mig welder once, and feeling pretty bad about it. Either the technician wanted me to stop trying to weld so he could go back to reading his paper, or he literally knew nothing about welding. Either option is bad. The way I "broke" the Mig welder takes literally two seconds to fix if you are familiar with them at all. He put me back about a year in my progress. I stick welded so many things badly that I could have MIG welded badly (but faster) instead.

Now that I had access to some rudimentary steel working tools you can probably guess what the young guy with the long coat wanted to do. I think I was there less than a 3 months when I started making swords. Or sword like objects at least. It's odd. Young me still hadn't quite figured out that the crazy impractical swords were much more to his liking than the efficient historical ones. I think it was partially peer incomprehension. You tell someone you make swords and if they start asking about anything at all it will be about Katanas and Claymores and such. They ask about your anvil and your forge. There's a good chance they'll ask about pouring molten steel into a mold cause movies have thought them to ask about that (you don't do that, even if you are making historical ones). They might start talking about a sword exhibition they went to in a museum. Who can blame them for trying to relate? It's better than the blank stares you'd get from most people.

Young me probably felt embarrassed to admit that his love of swords had much more to do with the PS1 than it did with history. I hope that in universe B where my youtube channel never took off I still have had the strength of character to not be self conscious about that. C.S. Lewis had a quote that ran: "When I became a man I put away childish things, including the fear of childishness and the desire to be very grown up". It still irks me a little bit when people call the opposite of what I make "real swords" as opposed to "historical swords". I know what they mean, but I sometimes have to suppress a little voice urging me to get them to explain what they mean. It doesn't matter what they mean. I know my swords are actual swords, it's just a shame there's no gorilla strength super soldier hanging around who could actually use them.

The things I made back then were garbage, but if you squinted you could sort of see

what would become my aesthetic trying to break through. I got known as the guy who makes the swords, so that's what I did. The staff at the art college didn't like that. They pretty much hated everything I did there, which looking back at the difference between what they were trying to get me to do vs. what I was actually doing, is understandable if insane. I'm probably the only person to pass through that place you've heard of (unless you are a fellow alumni who decided to check this out cause you know who I am, in which case my point kind of stands but also: Hello! Long time no see!)

All told I spent three years in that place. It would take current me about one week to teach past me everything he learned there in that time. Not that I'd do that. There's two reasons, one, I'd like to spend TWO weeks with him, so he could actually learn to do all those things properly, and two, I don't want to give you the impression that young me was continuously applying himself during those three years, that does him a disservice in terms of his ability to comprehend. However, without the rigid prison like structure of a Catholic boys school, his work ethic, always shaky at best, basically dissolved in the face of having a peer group of societies edge cases to fraternize with. So while I could teach him everything he learned there in one or two weeks, I might strangle him in the attempt, unable to tolerate and jealous of his wanton indolence.

All told, I think the most damaging thing any of the lecturers said to me during my time there was this: "These are probably the best facilities you will ever have access to, so make sure to make use of them while you can." The facilities there were aggressively mediocre. But I didn't know enough to know that, which left me with a warped view of what was possible with hand tools. I left that place in 2003 with a barely passing grade, under the false impression I'd never have access to angle grinders and a place to use them again. I was happy to be incredibly wrong.

### Chapter 3 - Going Underground

I get a lot of emails from people asking what equipment they need to start doing as I do. I will oblige with a little list if I have the time, but I often tell them the hardest obstacle they will encounter is actually finding a place they can work where others won't complain about the noise, fire and sparks.

The thing about art school is it doesn't really leave you with any useful skills. So after college I was basically unemployable. I farted around for the summer and then started employment in a medical factory. Clean room environment. Harsh fluorescent lights. Everyone wearing medical scrubs. Me wearing a beard net. I do fantasize about becoming a machine some day, have nanites slowly eat my brain and replace all the parts of it like the Ship Of Theseus. The point of this fantasy is a kind of secular version of everlasting life, avoiding the decrepitude of old age. I felt the medical factory was also turning me into a machine, but in the opposite way. 1000's of component A needing to get screwed into component B every day. Developing weird calluses on my hands from repetition. Zoning out as a way of surviving. The young selling their life eight hours at a

time making devices that help the old survive. In winter you enter the windowless clean room before the sun comes up in the morning, and leave after the sun has gone down in the evening. Life as a blur of weekends. After the taste of unstructured life I got in art college it was a very difficult adjustment for me.

My plan was to try and establish my own workshop using the money I made from having a crushing adult job, but for various reasons that didn't work. My first attempt at a workshop was a classic garden shed, but that proved unworkable due to the risk of fire. I wish I had an anecdote about setting fire to a shed to share with you, but various nervous people made sure that I don't and I was barred from trying to weld and grind in a civilian wooden shed (the shed features in the background of some of my very earliest videos, and is still standing to this day, to credit those nervous people). I needed something made of concrete if I wanted to do actual work.

There are lessons to be learned about human psychology in almost everything. My father worked in a parking garage. It was built into a hill, half of the structure was above ground, half below. People trying to escape it would descend this vast concrete spiral in their car and experience primal horror as they made the last turn and were not greeted, as they expected, with an exit, but a concrete wall with a small door in it. The staff of the parking garage tried everything to get the humans used to the fact that the building's exit was midway up the structure and not at the bottom of it. But humans cannot follow even the most basic directions, and most of the staff's efforts only resulted in heightened horror. They switched off the lights on the lower levels. The thought was that descending into abyssal darkness would let the motorists who refused to read large signage KNOW they had made a mistake somewhere. This only increased the terror when they reached the pitch black sump of the building.

If these unfortunate motorists were truly unlucky, and were descending into the bowels of the black spiral circa 2004, they'd reach the bottom of the final circle only to notice that the small door in the unexpected concrete wall had weird blue light pouring out from beneath it. If they were incalculably unlucky the door would open, revealing some sort of dungeon behind, and a stygian figure would proceed to shamble out and then up to their car.

I remember telling them; "You need to go up", the now highly strung motorist asked me, in full seriousness and with a note of shrill hysteria creeping in "WHiCh Way is uP?". I pointed heavenward with my blackened finger and they fled with squealing tires after making an awkward three point turn.

Why this caused such panic in people was a little mysterious to me, but I can sort of see the shape of it if I concentrate. In the classic game "Silent Hill 2" there's a sequence set in the bowels of a spooky subterranean prison, where you proceed from section to section of the prison via irreversible jumps down into pits of indeterminate depth. It could have just as easily been a stairs going down, or a door on the same level, but the

game wanted you to know you were descending, and there was no guarantee you were ever going to see the surface again, and that really did an effective job of giving the player the creeps.

What I'm saying is, at the very bottom of that spooky prison in Silent Hill 2, you could find my first real workshop. The giant concrete spiral of the parking garage eventually met a flat foundation deep in the earth, and the ramp of the level above created a weird, wedge shaped piece of waste space, so they walled it off. The entire structure, being a spiral, had a light and air well down the center of it, and the light well opened up into that weird little wedge that felt like a brutalist soviet version of an environment from Alice in Wonderland. So not only was it an odd, unsettling liminal space, it was an odd unsettling liminal space with a wet floor that smelled gross and had mosquitoes in the summer. The floor of the light well collected random pieces of trash from the upper world like the bottom of the Mariana Trench.

It did have lights, and that meant it had electricity, so working by flashlight I opened up the conduit and wired some electrical outlets in. IF I was doing this now, and of course, I wouldn't do this now, the next step would have been to replace the breaker in the box with a larger one. I don't know what size breaker it was, but I was going to run a small welder off a breaker intended for a handful of fluorescent lights. It did not go well. I could weld for a minute or two before the switch tripped. In typical fashion, not knowing the actual solution, I developed a workaround. The breaker box was in the office where the security guards dwelt. I would work all day in the medical factory, which I cycled to and from, then I'd cycle to the Parking Garage, and ask whoever was working if they wanted me to nip across the street to buy them smokes or whatever. In exchange, I asked them to flip the switch on the breaker if they heard it go click. They were all bored out of their skulls so they were happy to oblige, but swapping the breaker out would have been a much smarter way to solve that problem.

Speaking of dumb solutions (ha, this is a pun cause it was a chemical solution) it was during this time I first experimented with etching designs into steel. Towards the end of my time in Art college I discovered the printmaking department used nitric acid to burn plates for printing. I immediately wanted to try burning the designs into a blade and convinced one of the staff there to let me have some nitric. I have no idea why printmakers use acids instead of much less nasty electro etching, but my guess is tradition? It would be a decade later that I learned how to etch properly, but in that dimly lit grotto I only had the advice of one printmaker to go by. I'd use a roller to cover the steel in bitumen, and after it had dried I'd scratch designs into the surface. Then I'd build plasticine walls up around the area I wanted to etch and come back a day later and hope for the best.

The best was always pretty crappy compared to what I actually wanted to happen. It was always a nightmare doing the clean up. When I think of young, overtired me, using marigold gloves to protect myself as I sopped up nitric acid with a sponge and squeezed it into a bottle in my mosquito filled dungeon I shudder. I wish someone had explained to

me that all I needed was salt water and a DC power supply, that it could be done in minutes, not overnight, and that I needed to get the designs printed out on a vinyl decal machine, so I could relatively rapidly make copies and mirror images and such. I guess this was character building, but you don't need to damage your lungs with nitric fumes, use the saltwater method please.

On the subject of doing everything in the hardest way possible, I had yet to discover hardox, so all these "swords" I was making were still made from regular "mild" steel, the softest steel you can get before it's just iron. It's the regular steel all structural components are made from. It comes from the mill with a super thin layer of hard stuff called "millscale" or just "scale". It forms when red hot steel cools down while exposed to air. You can get aggressive acid to remove it, even just vinegar will remove it overnight, but I didn't know that. I didn't know a lot of things. So I would laboriously hand sand these blanks for my swords (the angle grinder would leave too rough of a surface, cause at this point I didn't even know about sanding discs!). I would spend hours down there in the dark, sanding away amidst the mildewy stank.

I think the most depressing thing about this arrangement was the disparity I started to notice between how much work something was and the end result. I was developing valuable skills, chief among them the ability to stick with something and the knowledge of how much work making even the simplest thing from scratch is, but I was out to sea with the idea of placing a value on my work. I still am in a way. When you live in a world of mass produced consumer products, you completely lose touch with how much effort it is to make ONE of something. That's not a criticism of people, by and large there's no need to know how much work making one of something is, but it did result in some funny exchanges with people early in my career, chiefly with myself in my own head. The market of mass produced slave labor objects had anchored my own brain with the idea of how much something was worth, and because of the way I grew up, the art market of fancy custom made objects was alien to me.

The garbage I made in my oubliette, with the tools and skills I have now, the version of me now could knock out stuff like it in a tenth of the time. But these days I wouldn't even like to put my name on the stuff I made back then. One of my best qualities is I knew even then that the stuff I was making was terrible. I was selling my early work to people who had largely only ever bought mass produced objects, AND selling it at a price that I MYSELF would buy it for, which meant I was hugely undercharging based on the man hours put into the work.

An awful trap aspiring creators fall into is an inability to see the difference between the amount of work they put into something and how much it would be worth to a third party. You see very funny amateur movies made this way. Chief among them is "The Room". I have very strong feelings about Tommy Wiseau being hailed as a kind of folk hero for making the worst art. I think he typifies the problem of not being able to objectively view your own work, and should not be dysfunctionally celebrated for it the way he is.

Even now, years later, everything I make tends to look bad to me, I can only see the mistakes. There's a small sweet spot where if I look at my previous project a few months later it will look sort of ok, but everything before that and whatever I'm currently working on looks bad to me. I don't actually see this as a problem, but that might be because of the weird masochism of growing up in Catholic Ireland. I once made my therapist sad when she asked me did I know what "negging" was, "of course I know what negging is" I replied. I told her in traditional Catholicism you are taught that you are garbage, filth, the worst, but it's ok cause despite the fact that you are the lowest form of sewage, God loves you anyway. I finished by explaining that now I'm an atheist, I only believe the first part of that premise. She did not find it as funny as I thought she would.

Years later I would move to an island off the coast of Massachusetts called "Martha's Vineyard", and see the problem of nonobjectivity about the quality of art on full display. The artists there live off the rich people who summer there, and these idle wealthy think it's cute to own art made by island based artists, it's what we call "codependent". Retired wealthy people are poor art critics, and generally buy landscapes and nautical based knick knacks. This leads to a cycle where the artists there can't grow or do anything interesting, and normalizes them producing the same art for 20 years in a row and overcharging for work that wouldn't sell outside of the island. Luckily the local gerontocracy never showed an interest in giant comedy swords so I was saved from this trap.

Meanwhile, back in the past I was trying to come up with things I could make and sell. During art college I was too distracted by the novelty of friends and a girlfriend so my nerdy inclinations took a back seat for a few years. After art college the girlfriend and most of the friends dissolved away so I found myself wanting to nerd again. I made contact with the local University nerdy gaming group, so I became the off putting older dude attending a college nerd group. This led to me going to a bunch of gaming conventions in Ireland, and with that I decided to make smaller stuff I could make and bring to conventions to sell. I never actually set up a booth or anything, I doubt I would have been allowed if I had asked, and decides that would have cost money. I sold them out of my long leather coat like a videogame NPC, which as you can imagine the nerdy folks at these conventions liked the aesthetic of quite a bit. My most popular item was these hair spike things I figured out how to make, nerd ladies with long hair loved them. It's a hair ornament you can potentially skewer a dude who's messing with you with. The hair spikes led to one of my funnier dungeon mishaps.

So at some point I realized I could put things other than drill bits into the chuck of the small bench drill I had, and attack the things spinning in the drill with my angle grinder and iron files and sandpaper and so forth. I can't remember the chain of thought that led to this revelation but it would lead to a lifetime of using things that are not lathes as lathes.

The hair sticks, spikes really, were made from lengths of ¼ inch mild steel (that's about 6mm in free health care units). I'd start by carving the grooves on the end that would become the "handle" end, and then reverse it in the chuck and start tapering the other end down to make the spike portion. This involved a lot of hand sanding and filing as well as the angle grinding.

I always work with my hair tied up, but as any of you with long hair know, if you work hard random wisps will start to come undone. One night, as I stood there making a pile of these spikes, I got too close to the spinning apparatus. The loose wisps wrapped around the spinning chuck, which managed to grab more hair, which in turn grabbed even more hair. My rapidly accelerating forehead met the chuck with a painful clonk. Luckily the bench drill, like all of my equipment, was super cheap, so instead of ripping out a clump of hair it started to slip on its drive belts, resulting in me rapidly headbutting the chuck over and over again.

So bench drills will generally have an emergency stop button on them. Big red button. Hard to miss. I will forgive the designers for not taking into account that a person's head might be glued to the drill, and thus make it harder than usual to find the big red button. So I started to flail like a fish, desperately looking for the off button while my head bashed off the chuck over and over again. I eventually did find the off button. I'm not sure how long it took but it seemed longer than it should have. I was still entangled in the device, and had to manually unwrap my hair from the spindle to free myself. No one knew I was down in that dungeon. I had a phone on me but the reception was garbage deep underground and I didn't have a single friend with a car. If I had been badly injured I would have had to limp four storeys up to the office with the security guard. Luckily though most of the damage was to my head, which I clearly wasn't using anyway, so I got lucky. Keep your hair tied back around spinny things kids!

The piece of feedback I get most often is I should charge more for my swords, but that only works if you have the customer base lined up and they are anchored in thinking your product is actually worth money. Giant silly fantasy swords are not quite in the art market, they tend to lean more towards the collectable market, and the collectable market is filled with mass produced stuff. I think I was selling the hair sticks out of my coat for €5 a pair.

It was depressing to me that figuratively grinding away in the medical factory was so much more profitable than the actual grinding I was doing in my off time, so I developed a new plan. It only took me nine months of working in the clean room environment wearing a space suit to realize this life wasn't for me. I needed to work in a welding shop and have access to better... everything... than I currently had. I had already applied to a bunch of welding places and couldn't get a job in any of them based on my background as an art student. I did some research and found that Ireland had free adult education programs where you could learn actual welding/fabrication. The snag was they worked in six month cycles. So if I missed the opportunity, I'd have to wait six



months for the next chance. If I quit my job, I would have to wait 6 weeks to apply for one of these programs, but if I got laid off, I could apply immediately. The next opportunity to join one of these courses began in a month.

I arranged a meeting with my HR person and asked to be laid off. They said they would think about it and get back to me. The clock began to tick. A week later they told me they couldn't fire me. I said "Ok" while thinking to myself, "how can you possibly win this game? I was trying to be nice." I needed to get fired. How can you not fire someone? I brought a cigar into the clean room and lit it up. I don't smoke, never have, I took an experimental puff on the cigar just to see what it was like. It was so gross. I have no idea what the appeal is. Instantly started coughing and that's what made the line manager notice me and kick me out. I remember the HR person telling me "This is not a good way to conduct your professional life, this incident will make it hard for you to get jobs in the future".

As part of my lonely sad neckbeard lifestyle I had read the Art of War by Sun Tzu (it's very short, which is probably why it's popular with brotards). There's a quote in there that goes something like "When your army has crossed the border, you should burn your boats and bridges, in order to make it clear to everybody that you have no hankering after home." I had no hankering to get another job in a clean room type environment, but I didn't have a boat or bridge, so I burnt a cigar instead. A burning boat would probably have smelt better.

#### Chapter 4 - FÁS and the cutting of the bloody spiral

So FÁS in Ireland was an organization that stood for Foras Áiseanna Saothair, which translates as something like "The help you get job foundation", but colloquially we joked that it stood for "Failed At School". It's called something else these days. It was an adult education program for unemployed people, if you were unemployed too long, you got told to take a FÁS course. You'd still get your unemployment money while on the course, but in theory you'd be learning something at the same time.

This of course led to a lot of people taking the courses who had no real intention of pursuing the trade in question being taught, but were instead looking for a way to stop the government from harassing them about not having a job for a while.

I think that's one of the reasons I got such a positive response from the guy teaching the course, Jim Cleary. A lot of the other guys on the course were looking at this as a speed bump on their path to what they actually wanted to be doing, but I had just come out of 9 months of working in a clean room, so the welding course was the escape.

Just as I had been handed this amazing opportunity however, I nearly messed it all up. My Girlfriend from college and I were back together for a while. And then we weren't.

And being a young man with the emotional bandwidth of a badly dubbed anime I dealt with my resultant feelings by punching a wall. Unlike a Monster Energy Drink Kyle™ punching through some drywall I made the mistake of punching an actual concrete wall. A couple of times actually, until one unfortunate hit exploded the metacarpal behind my right pinky finger. It wasn't the first bone I broke, but it was definitely the ouchiest.

I didn't actually know I had broken my hand until I tried using a hammer at FÁS the following Monday. Turns out it really hurts to hammer steel with a broken hand. I optimistically waited three days before finally admitting to myself that it wasn't getting better. At the hospital they told me it probably wasn't broken because I'd be in more pain if it was and then they sent me for an X-ray. I guess going out with that lady had heightened my pain tolerance quite a bit because an hour later they were putting a cast on me.

When they were done I had my index, middle finger and thumb at my disposal on my right hand, and I still had a welding course to do. I cut open a welding glove and duct taped it to my cast. One of the crucial features of a welding glove is that if it gets too hot, you can pull it off. I've had to do that a million times over the years, and I had just taped myself into one. I was worried an errant piece of molten steel would make its way inside my cast via the imperfect glove. Or that the heat would set the duct tape on fire. This didn't turn out as disastrous as I was dreading, and luckily the heat of the torch didn't seem to damage the cast. I did break the cast though. Twice. The first time I went back and they slapped more material on top. The second time I taped a thin steel plate I made directly to the break and called it a day.

I learned how to braze and gas weld with a broken hand. Even to this day I will sometimes drape the Oxy-Acetylene torch across my wrist in the position I learned to use while my hand had one too many pieces of bone. It takes the weight off your wrist and transfers the work to your bicep. Unlike the human heart, it only takes six weeks for bones to heal, and the welding course was six months long. So after the cast came off there was still plenty of learning to do.

There were a million minor things I learned there that had been skipped over in Art College. A "Center Punch" is simply a length of hardened steel with a point, you line it up where you want to drill a hole on a piece of steel and hit it with a hammer. This creates a little indent on the steel and when you go to drill it, the tip of the drill finds the indent and you get the hole where you actually want the hole. I got through 3 years of art college, an art college that had a giant pedestal drill and drill bits, without anyone explaining to me that a Center Punch was a thing that existed and should know about.

It was there that I discovered taps and dies, simple hand tools to put threads into a hole or on a bar of steel. I still use those all the time. I got to play with a press brake and steel rollers and an “Ironworker”. I wish I could have started at the Welding course in FÁS and THEN gone to Art College, but alas.

One of the absolute best things though was all the practice I got doing actual welding. In art college I learned how to turn the stick welder on and then awkwardly move the electrode around until the resultant mess was stuck together. Here I learned how to do actual welds where the molten slag would cool and then fall off by itself! The slag is actually the flux on a welding stick/rod, it protects the molten steel from the air, and then cools and hardens on the surface of the weld. If you weld properly it should just fall off with the slimmest encouragement, but I’d never experienced that before.

One of the biggest revelations was while using the MIG welder. Metal Inert Gas welding uses a gas as the flux, so the molten steel is protected from the air as it cools by a concentrated exhaust of fumes that don’t react with the molten steel, usually argon or a mix of argon and CO<sub>2</sub>. Within moments of starting to weld with the MIG welder I “broke” it the same way I broke the MIG in college and had to suppress mild panic.

Instead of having a stick of flux coated steel that melts as you use it, with MIG welding you have a spool of bare wire which is fed to the torch via rollers that engage when you pull the trigger (the trigger also unleashes the argon). Sometimes if the welding hose is kinked, or you spend too much time in one spot, or if the speed of the rollers is set too low the wire, instead of melting on the pieces of steel you are trying to join, melts inside the nozzle to the copper tip of the torch.

When this happened in Art College, I was told I had broken the MIG welder, and it stayed that way for months.

When it happened in FÁS, I was told to unscrew the gas nozzle, and use a sanding disc on a grinder to remove the melted bit on the tip. After the two seconds it took to grind away the melted blob of steel the wire, under tension in the torch, sprung out, and it was ready to use again. This whole process took less than a minute. And then I was back to practicing my MIG welding. All that stress over a nothing problem.

Of course while I was there I started making weapons, and poor old Jim Cleary didn’t quite know what to do. I was clearly the person most excited to be there, but I was making sharp things, and I’m sure the people who ran FÁS wouldn’t be thrilled to know I was doing that. He turned a blind eye, but a blind eye that also wanted to see what I was up to.

An “ironworker” is a big hydraulic machine that concentrates all the things you might be able to do with a powerful hydraulic force into one heavy ass apparatus. It can punch/notch/shear various sizes of steel. The part I was interested in was the punch, putting a giant hole in a piece of steel was huge pain in the butt for me before, but this thing could do it with a single press of a pedal (with “mild” steel that is, I still hadn’t discovered Hardox, I don’t know what would happen if you tried to punch a big hole through hardox with an ironworker, my guess is the punch would explode and if you got hit by the shrapnel you would have a bad day). I wanted to use the circular punch to bite a series of half circles out of a length of steel. I was trying to create a serrated “blade” with a series of teeth.

As I stood there wrestling with the machine it must have started making strange noises cause Jimmy came over to see what I was doing. Having come from Art College I was expecting to be told to stop, As that was the feedback I got used to there. But once I explained what I was trying to do he told me to tack weld two pieces of steel side by side at the ends, not to try and bite out half circles, it would be too abusive on the punch, but put the pieces through together, and cut them apart afterwards, to create two different pieces of serrated steel. Instead of telling me to stop, he offered helpful advice. This was the first time I’d ever experienced this. It seems like a small thing but it was maybe the first time someone volunteered useful feedback to me about something that I wanted to accomplish, as opposed to begrudging half help in an effort to minimize my damage. I made two serrated swords instead of one.

The only dumb accident I had while at FÁS, broken hand not included, had to do with the ironworker and its ability to punch holes in things. I was making these small knife type objects to bring to a nerdy game convention. I thought they’d look more interesting with a hole in the middle so I took them over to the ironworker. After I sheared a hole through one I thought it made it look like a punch dagger, that it could sit in your palm with your middle finger through the hole, so that if you made a fist you could punch with the blade (I had not by then shaken all my neck beard inclinations).

I slipped the knife on my middle finger like an oversized goth ring. I realized I had made a terrible mistake at around the same time my inner monologue thought “huh, the hole is a little tight I should make it bigger”. The way the ironworker punches holes through regular steel is by squishing a round disc of hardened steel through the regular steel over a hole of the same corresponding size that’s lined up perfectly. On the side where the disc gets squished into the steel the edge of the hole is soft, almost beveled. This was the side I had inserted my finger into. On the side where the hardened punch

emerges through the regular steel the edge of the hole is usually a jagged burr, especially on older punch sets.

Have you looked at the shape of a finger? There's a reason that rings tend to stay on. I gingerly started to twist the little knife off my finger and the edge of the hole started to saw in. Mental images of the time I made the mistake of googling "degloving" started to fill my mind. Do not google "degloving", I know you're tempted, but please don't. I had a couple of options, but all of them involved using power tools right next to my finger and didn't seem particularly appealing.

At this point one of the other guys on the course had spotted me and got curious as to what I was doing. I didn't want to gather an audience. I knew if I couldn't solve this quickly there was a chance that someone might tell Jimmy, and I didn't want to look stupid in front of him. To avoid that I had to do something really stupid.

I took a deep breath, closed my eyes, and began the twisting. Growing up I was a big fan of the Hellraiser movies. When the remake came out people complained about it as they always do, but like, have you seen the original Hellraiser? It's not a very good movie. And I say that as someone who loves that movie. As a teenager I think what I responded to most was the weird pervy energy in that film. You take a film like Halloween, and there's this underlying subtext that sex will get you killed, but in Hellraiser it's not the subtext, it's the text, if you like weird pervy stuff too much demons will come and take your skin off. It's ambiguous whether or not this is a reward or a punishment, but often has the taste of the "victim" biting off more than they can chew. While most of the Hellraiser films feature people who inadvertently summon the Cenobites, the Cenobites main prey is people who seek them out. This seemed like a more nuanced message than Halloween and the like, where the message is "sex bad, sex makes you dead". It's weird to talk about a film that features Cenobites tearing people apart with hooks as more nuanced.

This Clive Barker tangent has a point I swear. Did you know that the phrase "Exquisite Pain" is an actual bonafide medical term? It SOUNDS like something Pinhead would say in Hellraiser, but no, it's legit doctor speak. It means "extremely intense, keen, sharp; said of pain or tenderness in a part.". So anyway this was going through my head as I broke out into a cold sweat twisting this little lamprey mouth off my shredded digit. Don't stick your fingers in steel holes that seem NEARLY big enough! Especially if those holes have fresh, jagged ass edges!

When I opened my eyes and looked up the guy who had originally noticed me was staring at me slack jawed and slightly pale. I went to the bathroom and did the best I

could with bandaids and electrical tape. It was nowhere near a full degloving, it was more like a bloody spiral that ran down the fattest part of my middle finger.

I went back and punched the holes out slightly bigger, and then sanded the edges of those holes before trying again (on my other hand this time).

My finest moment at FÁS was the time I made the breast plate. Through my connections with a street theater group called MACNAS I was tasked with making a Roman style breast plate for a play. Now, this was a prop for a play, so I could have made it out of the thinnest sheet steel possible, BUT I wanted to weld designs onto the surface, so I made it from stuff slightly over 1/16th of an inch (2mm in Free College units). I used the rollers to curve the plate in both directions, the shears to cut out all the pieces I needed for the shoulder plates (and rolled those too) and made hinges for the shoulders. I welded a big Eagle inside a sun on the front and random laurels and squiggles onto the skirt. I never got feedback from the thespian it was destined for, whether it was too heavy for them or not. It was very heavy though.

When it was done the FÁS people came and took photos of it. I have no idea what they used the pictures for, but presumably to prove to people they did more than warehouse time wasters, but it put me in mind of making armor as a child, it was a thing the grown ups could offer positive feedback about more so than the weapons.

Towards the end of my time at FÁS there was a day we could listen to a lecture about safety to get a card called a "Safe Pass". This would technically allow us to work on construction sites. It was during this lecture that I got the story about how angle grinders are extremely dangerous that I mentioned previous. The crew who showed up to it were from all the different FÁS courses, the plumbers, the carpenters, the roofers, etc etc. At the end of it the instructor came up to those of us who were from the welding course to expressly tell us there was no way to make what we do safe.

He explained that PPE (personal protective equipment) is supposed to be a last resort, that standard safety protocol was to make it so that PPE was only brought to bear if something about the given operation went wrong. In welding/fabrication, the gloves, goggles, respirators, masks, aprons etc etc were all absolutely necessary because getting hit with sparks and eye destroying light wasn't a mistake, it was standard operating procedure. I think he was trying to get us to second guess our decision to become welder fabricators, but all young 23 year old me could think was "Rad".

I did my welding exam and passed it, so I officially have a piece of paper somewhere that says I'm a bonafide welder. I am only sort of sure where it is. No one I have worked

for has ever asked to see it. Times may be different now, but back in the first half of the 2000's in Ireland no welding place actually cared whether you were qualified or not. Or at least they didn't care about the piece of paper compared to your ability once you were actually working.

The very last part of the FÁS course was work experience. The deal was FÁS was still the one paying you during the work experience, so the companies in question were getting free labor. Like everything free though, those companies often got what they paid for, especially with the guys who didn't really want to be welders in the first place, so it had more of a babysitting vibe. Seeing as I was of an artistic bent Jimmy arranged for me to work at a place called Unique Designs, which did slightly more arty stuff.

I think the shock of working there was because FÁS I had felt somewhat competent for the first time in my life, but all of a sudden I was now working at a real welding place and quickly had to grapple with all the things I didn't know yet. Like, I didn't yet know what it felt like to have powerful electricity flow through my body, or what it's like for your bare hand to fall onto a hot generator, but I was going to learn!

## Chapter 5 - Welding in the Rain

So almost as soon as I started working in Unique Designs I realized I was not quite up to snuff yet. My whole 6 month plan hinged on me being able to use this workshop to do my own stuff, so I struck a deal with the owner that I'd work for the same money I was getting from FÁS. The FÁS amount was equivalent to unemployment benefits in Ireland, and as a single man with no dependents it wasn't a huge amount, but I had just spent 6 months figuring out how to live off it quite comfortably. Not to denigrate my fellow citizens, but I think the fact that I didn't drink or smoke allowed my money to go much further than theirs.

BUT I wanted to work part time, only three days a week, and have access to the workshop after hours. The Boss, Padraig, agreed, and that was the arrangement for the next couple of years. The main lesson I learned at Unique Designs was the ability to make a weld completely disappear. In FÁS we were mainly learning how to stick stuff together so it wouldn't fall apart, and not so concerned about the clean up. In Unique designs I was introduced to the flat sanding disc, which if used carefully could completely hide a weld between two pieces of steel.

There's a meme in welding that if you need to grind a weld, you're a garbage welder. This stems from a misunderstanding about the purpose of a weld. If you are just trying to do a structural weld for the purposes of making two pieces of steel stick together, then grinding the weld might serve no purpose other than hiding the fact that your weld was messy and gross. I've never really understood this thinking cause if a weld is messy and gross, you'll still be able to tell after you grind it. A bad weld will be full of porosity and so forth, and grinding the weld will only bring all that nastiness to the surface more and make it easier to see. During my welding test they chopped my weld in two to see a side profile and see if there was any porosity.

At Unique Designs we made fire escapes and so forth where there was no need to grind the welds, but we also made decorative gates, furniture, fancy spiral staircases etc etc. Even a good Mig weld will be kinda lumpy, so we ground everything and blended everything together so there was a single spot on it where a person could catch their hand on an uneven surface. This wasn't "bad welding". Even in industrial applications, there are plenty of instances where you would need two parts you've welded together to fit against a third component smoothly.

In my sword work I started to use this approach to weld everything fully and blend things, while at the same time also using welds as decorative elements in other instances. It was here that I also discovered ready made finials and such for use in gates and rails and started to incorporate them into my swords. I don't do that much anymore, but if I need a 4" steel sphere for something I know you can just buy those off the rack.

I had lots of minor cuts and burns while working there (I say minor, but I have a pretty big scar on the back of my right thumb from one, so maybe I should say "pedestrian" injuries), but there were a few incidents that led to me questioning my brains ability to brain.

We were out on site somewhere doing... something... I can't remember what. There was no power at the place so we were using a mobile generator. Everything was going fine until towards the end I tripped over one of my welding cables umblicalling from the genny. In an effort to save myself my bare, ungloved hand instinctually found the top of the generator and all my weight was momentarily supported via my bare palm on the engine's top surface. It turns out the top of a generator gets pretty hot. In the classic home invasion fantasy, Home Alone, there's a part where Joe Pesci grabs a red hot doorknob, only to have the "M" of the Macallisters custom knob branded into his palm. Before my hand fell onto the generator I had always doubted how accurate this scene was, as the M is delineated quite finely, and my guess had always been that with seared flesh, surely the fine detail would be lost amidst all the blistering and charring. I no longer doubt. I spent at least a week with the sharp 90 degree corner of some plate on top of the generator sharply marked on my hand, and not only that, but you could clearly make out the shape of three of the philips head screws that held the plate down, clear enough that you would have been able to fetch the right sized screwdriver to undo those screws by looking at my palm. Don't touch the top of generators!

It wasn't always super hot things though, sometimes it was really cold stuff that got you. On another rainy occasion We were at the front of a building welding some I-beams together for a big new front entrance they were building. I was up on a ladder, and it was raining hard, and I was thoroughly soaked, and that's when I learned a new way I could get hurt. So the way welding works, in case I haven't mentioned it, is you make a circuit, you connect an earth or ground to the piece you want to weld, and when you touch the torch off the steel the circuit is complete and the steel melts in a controlled fashion.

Outdoors is too windy for MIG welding, the gas gets blown away and you're left with messy welds, so it's mostly stick. The problem with stick welding is you can't continuously do it, you



melt the stick, and then need to load another one. This is normally fine, but if everything is wet, I mean really soaked, I discovered the end of the stick will be able to complete the circuit through your drenched body. I did a funny little dance at the top of the ladder as the current passed through me, but I got the new stick loaded. AND THEN I KEPT GOING. I'm too old for that nonsense now, but I stayed up on the ladder, getting zapped every time I used a stick up. I eventually figured out you could sort of get the stick into the mouth of the torch by throwing it like a dart. You may be wondering why I didn't turn the welder off between sticks, but like I said, I was at the top of a ladder, and in order to do that I'd have to climb all the way down there every time. No one has time for that. I think if I was doing it now I'd maybe have kept a plastic bag inside my coat to grab the new sticks with. Or I would just refuse to weld in the rain. But that's kinda a hard sell in Ireland. Don't weld in the rain!

I still wasn't wearing a respirator at this stage, it was a relatively late addition to my gear cause honestly, none of the other welders I saw wore them. One of the worst activities to do while NOT wearing a respirator was working in the painting booth. I don't know how much paint dust I inhaled, but luckily I had a second accident while cleaning out the paint gun so it's probably fine now. To clean out the paint gun you loaded it up with thinners and blew that through the gun. Also while wearing no respirator. You could turn the gun into a mini flamethrower by using a lighter to ignite the paint thinner. So one day while cleaning the gun out I lost my grip after filling the tank up with thinners. I flailed my hands out trying to grab the gun to stop it from hitting the ground, and I succeeded! I grabbed the gun midair, while it was facing directly towards me, and the trigger! I shot a huge gout of paint thinners directly into my face/eyes and open mouth! So what I'm saying is, you might have been concerned about all the paint dust I inhaled, but I also inhaled a huge amount of thinners, and in the ensuing hacking coughs and attempts to wash my eyes out I'm pretty sure I thinned out and then coughed up a massive amount of the paint that had solidified in my lungs. Helth! I wear a respirator these days and so should you.

It was while at Unique Designs I made my first Buster Sword. Do I have to explain what a Buster Sword is? Is there any chance you bought my book and don't know? I guess I should give a brief explanation. "Final Fantasy VII" was an extremely popular videogame in 1997. Like I mentioned before Ireland came into money in the 90's and a huge proportion of kids had playstations. The only country where the proportion was higher was Japan. It's weird to think of how much of a mania FFVII caused, it's a JRPG, or Japanese Role Play Game, it's basically an interactive book, but had D&D like elements of leveling up and buying equipment for your characters. And it was long. The longest game any kid in Ireland would have seen up 'til then. It seemed like every kid played it. The main character is a waspy young male with spiky yellow hair inexplicably called "Cloud Strife", and his main feature is he was armed with ENORMOUS swords, comically enormous, it was the coolest thing any young lad in Ireland had ever seen. It definitely went into my head and did permanent damage. The sword he starts the game with is called a "Buster Sword", and much like the one I was about to make, it's the worst sword in the entire game.

Thinking back, it's strange that it took me so long to get around to making one. If I had to guess why, and this is just a guess, I think I was still struggling with the idea that swords are supposed

to be usable. I wasn't fully comfortable with the idea of them as purely art objects yet, I still had a little fedora and trench coat left inside me that I needed to shed. These days I've carved out a very specific niche for myself, so most people don't get confused, but you still come across this tension every so often. Guys will send me emails asking me if I can make them a historical viking axe or whatever, as if you can't get those anywhere.

I can't even remember the name of the guy who asked me to make it. He was a friend of a friend. I also don't remember where I got the measurements but I know I made it too big. I think the total length was 2000mm, or for Americans, 1 Michael Jordan long. The blade was 300mm wide, which is ironically longer than Michael Jordan's foot, but is about a foot wide. Luckily for me the Buster Sword is an incredibly simple sword, design wise, a big rectangle with an angle cut at the top, with two holes in the blade near the "guard". I still messed it all up design wise. I was not yet very good at this.

The main hurdle with the blade was polishing it. I hadn't yet discovered removing mill scale with vinegar, and the scale was slightly too hard and smooth for the sanding discs I had. I very carefully and gently broke up the surface with a regular grinding disc before going over it with sanding discs. Don't do this, no matter how gentle you think you can be, the grinding disc will leave nasty marks that will take way too much effort to clean up. Also, I don't think I had the discipline to keep the sanding discs moving in the same direction, as I got impatient with certain areas that had deeper grinder disc gouges. There's nothing worse than the random swirly marks from undisciplined grinder work. I think I tried to hand sand it afterwards, but at that point I had done too much damage to the blank. It was a mess.

Polishing a giant slab of steel is still a daunting task, but these days I have an actual method. I usually start with the vinegar bath, I'll use a big rubber sheet and some bricks or whatever to create a bath big enough for the slab, leave it soaking in vinegar overnight. I think because the mill scale is so thin, and barely actual steel, mostly oxides and such, it dissolves in the vinegar overnight. After that I'll use a sanding disc to very gently remove the surface texture of the slab, the key here is keep the sanding disc as flat to the surface as possible without applying any pressure, and move in even smooth lines. After that a regular belt sander with a succession of belts of different grits is used, and if you are very lucky you can get a surface with no noticeable gouges or dings. I usually only polish my giant blades to 100 grit, I find that any grit higher than that becomes very difficult to maintain on the giant blades.

Some day, when I am rich from book sales or similar, I will purchase a huge machine known as a "stroke sander". A stroke sander is basically a gigantic belt sander, designed for the exact purpose of polishing great big slabs. I could go straight from the vinegar bath to the stroke sander. They aren't actually that expensive, but I'd need to be rich to have the space to keep one, it would be the biggest tool I'd own.

These days I make my handles out of solid stock, but I couldn't find anything big enough at Unique Designs. I made a weird frankenstein thing by welding the biggest solid bar I could find inside not one but TWO hollow pipes. The way I welded it to the blade was questionable, but I'm

sure I did my best given the circumstances. One of the reasons I use solid bar these days is you can bevel the entire depth of the bar, and weld from the center of it out, and create a join that's 100% weld.

Weirdly, Unique Designs didn't have a plasma cutter. When I was in art college I remember they only had one auto-darkening welding helmet, it was kept under lock and key and we weren't allowed to use it. On a rare occasion when the technician was actually present he told me the Helmet cost £300. These days you can get much better ones than the art college one for \$40, and I'm sure they are considered basically disposable, going by how hard it is to fix them when they break. I wonder did Plasma Cutters go through a similar price drop in the decade and a half since I made the first buster sword.

Plasma cutting involves creating an arc of super heated ionized air through your workpiece, and then using that arc to cut through it, using electricity and compressed air. When I have to make a hole through something like a buster sword these days I'll start with the plasma cutter, get it as close as I can, and then clean the hole (or whatever shape) up using a die grinder, an electric iron file type gadget. I have mine mounted sticking up through a flat table, so the sides of the hole would be a clean 90 degrees after.

At Unique designs I didn't have a plasma cutter OR a dies grinder, so I improvised. I used the Oxy Acetylene torch to make very crude holes where I needed them, then welded in pipe sections where the nice round holes needed to be. The pipe sections were fatter than the base plate, so afterwards when I ground down the weld the remaining piece was actually round. This further messed up the surface in those spots despite my best efforts.

When I was finished making it I knew something special had happened, as ugly as the result was. Normally when I finished making a sword I'd take my 3 megapixel digital camera and take a picture before it disappeared to whoever it was for. Then I'd print out that picture on my inkjet printer and place it in a clear envelope in a ring binder folder I called my portfolio. I can't remember but I don't think the camera even had an SD card. Once that computer crashed the shitty ink jet pictures were the only record of the sword existing at all other than the physical copy that existed somewhere in the world.

Earlier that year I'd started uploading videos to youtube sporadically. It started cause some of the things I was making had moving parts, and a crappy inkjet printout wasn't quite able to capture the objects in motion properly. With the Buster Sword I found the pictures weren't quite able to capture how silly the sheer size of it was. It needed a video.

A friend of mine called Podge helped me film the faithful video. He was the one who introduced me to youtube in the first place. The video we made was awful. Truly terrible. It's unwatchable these days due to it being in 240p, the finest p that 2007 could offer ( you can't understand if you weren't there; we'd use our Nintendo Wii to sit and watch anime's uploaded in 10 minute segments in 240p for HOURS, playlists were clunky, so we had an option to realize we were wasting our lives every ten minutes and instead would keep watching). But even if it had been

filmed in glorious 4k it'd be an awful video, it's too long and uses cringey music, which makes what happened next extra inexplicable.

I'm not a fan of D&D, and when I say D&D, I kinda mean the whole class of Table Top Role Play Games where players fight monsters to level up and get imaginary gold to buy imaginary weapons, rinse and repeat. FFVII was that sort of game in digital format, except it came with stunning visuals for the time and a prewritten story that people found intriguing, but there was no "role play" required on the part of the player. I think the part of tabletop role play games that makes them intriguing is the amateur theater aspect, they give you a chance to inhabit a character you create.

Garry Gygax, the creator of D&D, was a wargamer, his background was games where you pushed armies of miniature soldiers across a battlefield and resolve esoteric game mechanics to figure out which army is winning. When he decided he wanted to make a sort of Lord Of The Rings simulator, he used what he knew, and D&D was, and still is, mechanically mostly a tactical combat game.

These days you can get the tactical combat itch scratched by any number of videogames, but you can't get the Role Play itch scratched by anything other than games like D&D. Since D&D many other Role Play Games have emerged that lean into the "Role Play" part and eschew the complicated rules for small scale combat. What I'm saying is, as unpopular of an opinion as it may be, is that Role Play Games were such an appealing concept that they survived and thrived despite the first iteration of the idea being literally the worst version. I sometimes fantasize about a universe where Gary Gygax was a theater nerd who liked fantasy stuff and a dash of math.

I also sometimes think of this when I remember that first giant sword video, how garbage it was, and what happened next. The idea was so appealing to people that it survived its first and worst version. I'm kinda lucky in a way that the video was only in 240p, it covered up my poor craftsmanship. I sometimes joke that my ability to make things look nice has kept pace with the video quality available on youtube, and I'm only half joking. Despite all my hard work up til that point, I still think what happened next was the purest form of dumb luck.

## Chapter 6 - Boiling my face off

2007 was a pretty crazy year for me. The video of me swinging the Buster Sword around went live on September 22, to a total of 12 views, and on November 29 of the same year my daughter was born. During my bachelor days I would save up money and go traveling, come back and save up money to do it again. I spent three months in New Zealand, a few weeks in various European places. I went to New Zealand to see Lord Of The Rings stuff. I went to America in February of 2007 to see H.P. Lovecraft's grave. That didn't take very long so I went and looked at New York and Boston and so forth. At a nerd convention in Boston I met my ex-wife. We lasted 15 years together, which isn't bad for two strangers who were kinda thrust together I don't think.

I left Unique Designs at the end of September to go to America and be part of the birth of my kid. When I returned in January of 2008 for a visit I got stuck in Ireland. Apparently if you have an American kid, but aren't yourself an American citizen, you get labeled as a "high risk Visa jumper" and they can deny you entry. Of course you can get around this by getting married to an American Citizen, so my wife and I were married by April of 2008.

But before that could happen I had to get a job and such in Ireland. The first of many "Once in a lifetime" recessions had just started, so Unique Designs couldn't hire me again, even in our weird arrangement where they paid me next to nothing. I got a full time welding job at a different much larger place called Rynn Engineering. The problem with Rynn's is it was more professional, so they were not cool with me coming in after hours to work on my own projects. I did anyway, but I had to be very sneaky, but it's hard to be sneaky with swords as big as surfboards so my progress slowed.

This lasted for about a year, during which my popularity on youtube was small but gaining some traction. Having uploaded a video of myself failing to use a comically unuseable sword, I almost instantly started getting messages from fellow weirdos who also wanted the opportunity to not be able to use a humongous sword. However, trying to work a full time job while also being a new Dad and making swords on the side but also trying to keep my social life going took a toll on my physical and mental health. The problem was most of my audience was in America, cause of the nature of the interwebs, but I secretly suspect that even if Americans hadn't been dominating the English speaking webdernet, the giant silly unusable swords would still have been most popular in the land of the Humvee.

In 2009 I decided I wanted to move to America to be near the market for giant swords. My Wife's family had land on the island of Martha's Vineyard, and a local artist there called Barney Zeitz wanted me to work for him part time, similar to the arrangement from Unique Designs. There was an old unused building on the property I could convert into a workshop. It seemed like the perfect answer. To top everything off, in October of 2009 the website Cracked featured the Buster sword video. On the day the video was uploaded it got 12 views, on the day the Cracked listicle went live it got an extra 24k views. I just went and double checked that, I can't believe that was such a big deal at the time, 24k seems like nothing these days. My most popular video on youtube has 11m views. But apparently 24k views was enough to cause my inbox to explode. Other nerdy websites started noticing my videos too, and the snowball rolling down the hill started getting bigger and bigger.

One of the cool things about the Vineyard is I had no social life for the first 6 years I was trapped there. I could have been busy every night if I was into acoustic potlucks and organic guitars, but a nerdy guy who believed vaccines worked? I was extremely lonely. H.P. Lovecraft was an awful human being in quite a lot of ways (the main one being racism) but one of his better qualities, also born of loneliness I suspect, was his insistence on answering every single piece of fan mail sent to him. I decided to emulate this approach, and I still try to do it to this day. There's no way to do the math, but I really believe this helped develop the channel in the early days, but it was only possible cause of the loneliness and the part time job. On the subject of the part time Job, I

learned some incredibly important stuff working with Barney, techniques I still use to this day. The most important of which was to not be shy with the grinder.

Unique Designs was a welding shop with arty leanings, but Barney is an actual artist, which means he charges art prices for his pieces, so he can afford to spend time on techniques that just aren't feasible in the normal people market. Barney would take these huge chunks of steel and go to town on them with the 9" grinder, giant solid bars would become these delicate spiraled pieces. I had already learned at Unique Designs about making a weld disappear, but from Barney I also learned you can build up a crazy amount of material between two shapes before you start grinding. The amount of material he laid down was almost like 3d printing, and then you'd grind back to get these incredibly organic shapes that looked more like castings than the result of welding and fabrication. Animals. Insects. Even human faces he built up this way. When I've used this technique it's mostly been for skulls. Skulls feature prominently on many giant swords. This insane amount of grinding, and Barney's insistence, was also the precipitating circumstances that led to me to start wearing a respirator in earnest at all times.

I had learned brazing with a broken hand while at FÁS. It's normally used as an alternative to welding for smaller or more delicate joints, or joints between non steel or dissimilar metals. The brazing rod is usually made of brass or some other low melting point alloy. While I had seen the potential of brazing to use as a technique to inlay brass into grooves on steel, I hadn't considered it as a method for completely brass coating an object. Barney would braze the entire surface of a chandelier or sculpture. This creates a rough, organic, melted type of surface texture that makes the result look like something archeological. There's another technique for brass coating an object, you simply heat up a piece of steel and hit it with a brass brush. The brass is soft and transfers to the surface of the warm steel. The advantage of this approach is you don't lose any surface detail on your finished piece. The disadvantage is same as the reason you don't lose any detail; the brass coating is incredibly thin, and will come off with any sort of abrasion, it's also kind of a muddy yellow color as opposed to the bright look of polished brass. Using the Barney approach of brazing an entire surface, you're left with a brass coating so thick you can literally polish it up with a steel wire brush mounted in an angle grinder, and while kinda rough, can be buffed to an incredible luster. There's no other plating technique that leaves a surface this thick on your finished piece, even if you splash out and send it to a fancy plating place. I liked it cause my swords were expected to take abuse, and this is the strongest technique I've ever found other than making the piece out of a giant piece of brass in the first place (and depending on the sword design, using an actual giant lump of brass would sometimes lead to a weaker sword more prone to breaking anyway).

The funniest accident I had at Barneys involved rediscovering the principles of steam power. I can't remember why I was heating up the end of the pipe, but I was heating it up and hitting it with the hammer to shape it for some purpose. When I was finished I dunked the pipe in a bucket of cold water. But it was a pipe. A pipe that was red hot at one end, dunked into water. I made a device for shooting steam and boiling water at my face. So I know the end of the film Total Recall is supposed to be happening inside Arnold Schwarzenegger's head as his brain dissolves or whatever, but one of the things that always bugged me as a kid was the climax.

(spoilers for a film nearly old enough to serve as a US president I guess); An alien machine melts the icy core of Mars and clouds of atmosphere boil out of Pyramid mountain, "saving" the day. The boiling clouds are violent enough to shatter all the glass hab-domes on Mars, and the bewildered inhabitants all marvel at the new blue sky and breathable atmosphere. Surely all the inhabitants of Mars should have been cooked to death? Something something alien technology I guess. Also it was all a hallucination anyway. A steam burn is apparently a worse species of burn than regular boiling water cause not only does the steam raise the temperature of your face to boiling water temps, but it also releases the energy it inherited turning from a liquid into a vapor as it condenses on whatever surface it's scalding. Surfaces like my face. Luckily I closed my eyes so they were fine, but I had a weird scaldy looking mug for a while. Don't stick the ends of red hot pipes into water kids! Or at the very least angle the end away from yourself!

I can't remember exactly WHEN I discovered that vinegar can be used to strip rust and scale from steel, but I remember the WHY. There's a lot of swords that are various interesting colors in Videogames and so forth. A lot of the bright interesting colors you can only achieve using paint, which will scrape off with use. I hate paint. But there's some colors that you can get to stay. I've already mentioned the brazing, that leaves a gold color. You can also braze with Silicon Bronze for all the shades copper can turn. You can in THEORY treat either with acid for Verdi gris, that's a green. Of course there's the orange and browns of rust. Heat, while not delivering a very thick or strong surface, can leave oxides that are gold or blue or purple, and while it's not very thick it looks better than paint. I even made a sword with all the colors of the Pride Flag once (I was nervous about calling the video "Mikes Big Gay Sword" as opposed to "The Pride Sword", but various of my gayquantices said it was fine). Then there's black. There's a lot of swords that are black in various angry young man fiction.

You can buy a chemical for "cold bluing" steel, aka turning it black. The black is an oxide that's just a type of fancy, more stable, rust. For whatever reason I was suspicious of the cold bluing solution, and sure enough, the sample piece I tested turned rusty. The cold bluing solution is a type of acid, and if you don't rinse the piece thoroughly it can make the piece regular rusty again. Of course, if you don't dry all the water you used to rinse the piece off with thoroughly, that will rust the piece too. And then if you don't oil the piece afterwards, that will also cause it to start rusting. So there's a few failure points, and when I did my first experiment I must have hit one of them cause it would be years before I attempted the cold bluing solution again and discovered it worked fine.

For the moment though I tried other experiments. The most successful I found was letting a piece of steel get super rusty and then boiling it. The problem is a fresh coat of rust is actually super loose on the surface, so while I had some luck using Hydrogen Peroxide and Vinegar to rust steel quickly, this process could still take days to make the steel turn a species of gray instead. It's a tough coating, stronger than the cold bluing true black, but you have to be very generous to see it as black.

On some knife making forum somewhere I found a guy who mentioned he used boiling vinegar to make his knife turn black. I have found you always have to take info from forums with a grain

of salt. Forums attract a weird crowd, and the weirder the person, the more time they'll have for posting on forums. I have seen sword guys advise each other to only quench in rain water, others to align their quench buckets with magnetic north so their blades won't warp when they dunk them. Others advise that organic canola oil is better than the cheap stuff for your quench bucket. Boiling vinegar seemed like a cheap experiment to attempt so I decided to give it a go. I wanted to see the difference between applying this technique to bare steel vs. millscale, as the mill scale itself is quite a tough surface if you can keep it intact, and if you could reliably make it turn black it might be interesting.

I set up a pot to boil and threw the steel sample in (pro tip, don't boil vinegar indoors, it's stinky AND stingy to inhale). When I took it out a few minutes later I was disappointed, it initially did look black, but as I rinsed it off in the sink all the black disappeared. Not only had the polished piece of the sample not blackened at all, but it had taken on a matte appearance as the vinegar had etched it a bit. Furthermore because the vinegar was hot the surface began to flash rust almost immediately, before I rinsed it off and dried it. But then I noticed the side I'd left the scale on. The scale rubbed off with just my fingers. Not quite believing what I was seeing I rinsed it under the faucet and sure enough all the scale was gone.

If you haven't spent years grinding the tough outer layer off large steel slabs it's hard to articulate how important this was. I had wasted so many abrasives trying to remove the mill scale without damaging the plate underneath. Of all the methods I have discovered on my Channel over the years, absolutely none have been as useful to other people as this, based on my inbox. Unlike Nitric acid, which regular people can't buy, or Mueratic acid, which regular people shouldn't buy, Vinegar is so safe that lunatic fringe people on Martha's Vineyard drink it instead of getting their flu shot. You can use it to clean the scale off of fresh steel, but also the rust off of old steel. And you can pour the resultant soup on the ground afterwards without feeling too bad. The bottle of Nitric Acid I used up from Art College, I can't quite remember how I got rid of it but it involved doing something shady like breaking back into the Print Department there after hours and pouring it into their hazardous disposal jungle juice drum.

I mentioned I started wearing a respirator when I was working at Barney's. At FÁS the uniform was a set of blue overalls, but by the time I was leaving there I had switched back to just my leather apron. At Unique Designs I got away with wearing whatever I felt like, aka the apron and I started wearing the distinctive shoes with the metatarsal plates while there, but I never really wore a respirator, they are uncomfortable and no one else was wearing them. Ear muffs also weren't very in vogue there, despite all the racket of the grinders. Safety glasses and gloves seemed acceptable, but the safety glasses were communal, and it was always a struggle to find a non scratched up pair. At Rynn Engineering the official uniform went back to being a set of blue overalls, and there it was a more rigid company policy. I wore my apron over the overalls sometimes if I was doing a lot of grinding, but I think all the Polish guys smoking cigs while welding and grinding would have laughed at me if I wore a respirator. A lot of the older guys in there had faces so weathered they looked like they had survived GRU assassination attempts. Nope. Not Novichok. Just the life of a welder.



Seeing as I was now living more of the life I actually wanted and could do whatever I felt like I started to experiment more with my PPE. I was still wearing the more traditional type of respirator, the type you see on my logo, with the cans and so forth that locks directly to your face with the straps. There were many reasons it was difficult for this to become part of my standard kit. The first was the safety glasses. Whatever shape my head is, the standard safety glasses fog up on me when I wear a normal respirator. I solved this by discovering the older type of safety goggles while working at Barneys, the type that have been completely co opted by Steampunk enthusiasts. It is now easier and cheaper to buy a pack of 5 of them painted in steampunk colors than it is to find one that is intended for actual work with sparks. I also find it's slightly harder for sparks to get around the edge of them than the traditional glasses. Barney was an earmuff enthusiast so I started wearing those too.

Between the 1400's and 1600's in Germany there was mercenary group called Landsknechts. They were famous for flamboyant outfits made from random scraps of brightly colored stuff they pillaged from the battlefield. These dudes looked FABULOUS. There's some quote I can't find now, someone asking some king was he not embarrassed to have all his fighting done by a heavily armed Psycho Pride Parade, the King or Count or whatever responded by saying something like "Their lives are short and brutish and usually end in them having their insides turned into outsides, if looking like a circus tent makes them happy, what kind of monster would I be to take that away from them?".

With that in mind, and cause of the goggles probably, I spray painted and modified my respirator, goggles and earmuffs to look steam punky. My apron was by then a giant mishmash of patches, and if I needed additional protection in some location, I was usually liable to strap some random extra plate of steel to myself in a modular fashion. I was starting to look pretty nutty, but I wasn't quite done

Because of my beard, I had to strap the respirator on extremely tight to get a good seal, and because I wore braces as a kid, when I'd take it off in the evening, I'd have to wait an half hour before my teeth would fit together properly again. Also, when polishing steel sometimes a big glob of my spit would fall out of the exit valve, necessitating me cleaning up the flash rusted spot from my acidic sputum. I also didn't like the way the straps tangled and caught on my beard and hair.

A friend of mine introduced me to the "Resp-o-rator", an alternate contraption for guys with beards. You put it in your mouth like a snorkel, and wear a nose clip. Pipes that rested on your shoulders connected to filters at the back. I had to modify mine a bit, so I Steam Punked that too, and behold, my look was complete. I've heard people refer to me as a "steampunk fantasy dwarf", which isn't a terrible characterisation. A weirdo with 1980's fingerless leather gloves, a shirt with a bunch of holes in it, and apron made of a mass of patches, wearing a weird steampunk scuba contraption with a baby bottle glued to it and a pressure gauge glued to the side of his earmuffs, who makes giant swords in the woods.

I'll sometimes get emails from guys who have modified their own PPE to look weird, or have fabricated up respirators like my one. Other than the vinegar trick, making PPE a fun thing, and not an unmanly hassle that interferes with your ability to suck on cancer sticks, might be my other great contribution to my little corner of the culture.

As for my videos, while still nowhere near the quality they would get to, I had started experimenting with setting everything on fire. Living in the woods, away from row houses and cities, I learned I was a late blooming pyromaniac. I filled plastic bags with propane to create fireballs, I filled coconuts with gas to make molotovs (I didn't want to get glass on the ground). I set random stuff on fire in the background. The first time I filled a pumpkin with gasoline and hit it with a sword I was bare chest (video; Sword of Omens (Amerikaner Edition)). I survived unscathed somehow. Madness.

Other people were starting to notice the madness I was up to, and eventually they came a knocking.

## Chapter 7 - The Road To Hollyweird

The year was 2012, I had just finished making a sword called Rebellion from the game Devil May Cry. It was a long, relatively skinny sword (skinny as these big giant ones go, the blade a mere 4 inches wide). It was mainly notable for having a guard that looked like a rib cage with a skull, the handle and cross bars looking vaguely boney. My wife was doing a story for the local paper about an NPR event happening on the island. In attendance was going to be an NPR guy called Steve Junker. He did little segments for NPR called Creative Life, where he'd interview local people about what they did on "the Cape and Islands". She wanted to know if I'd like her to hassle Steve Junker to do a segment about me. I said, "yeah sure why not", but I doubted he'd go for it, I wasn't very "Cape and Islands". I'd heard some of those segments, and they were always about a elderly fisherman or a guy who seduces clams or whatever and always ran about the same way;

Steve: "Tell us what you do"

Elderly Man With Steven King Type Accent: "Well see first I get the clams see".

Steve: "Uh huh"

<indistinct bucket rattling sounds>

EMWSKTA: "And then... then I fill up the bucket with the clams"

<Sensual moist shellfish sounds>

Steve: "Yes"

EMWSKTA: "Then I drop my drawers"

Steve: "Ohmygod"

Well, my wife went to the NPR event and cornered Steve Junker there, and he said, "100% yes please I am sick of doing stories about Oyster fanciers". Never assume someone doing something is doing it by choice kids!

The segment about me was called "Giant Swords and Little Movies", it aired in January of 2013

and can still be found on the internet to this day. He did an AUDIO recording of me smashing a pallet with a giant sword. I thought it was fun, but didn't really expect anyone to care. Well, it turns out a lot of people listen to NPR in the den of liberal darkness known as New England. I was already known in the bubble of Internet weirdos and listicles and forums and such, but that story got me locally known. Thin nervous WASPS who can't play video games cause they're afraid of the gluten in them all of a sudden knew who I was.

Now that I'd breached out of my internet-only bubble, the following summer a nice pair of guys from the Cape Cod Times called Eric and Jason showed up. They made a short video for the newspaper's youtube channel called "The Man Who Makes Giant Swords". The video was disproportionately popular compared to the others on their page, and again I reached a bunch of people who hadn't previously known I existed. I was, and still am, quite happy in my little echo chamber of nerds who like swords and videogames, but apparently the almighty algorithm who sorts us by our shopping preferences had been keeping people in Hollywood from seeing me. I am convinced someone from LA was holidaying on the Cape that summer and came across the video, that I rode in their head like a memetic virus back to the City of Angels.

Not only did I receive one email about the possibility of doing a TV show, but several emails, from different people, all within the same short span of a couple of months. My default assumption about the internet trying to offer you an opportunity is a scam of some sort is afoot. The thing was, I couldn't figure out what the angle was with the TV show bit. This just shows how naive I was. These days my paranoid brain would have assumed the ruse involved the production company getting me to sign a contract that gave them exclusive rights to do a TV show with me, and then hold onto those rights on the off chance that someone ELSE wanted to do a TV show with me in the future. Then they'd force the other production company or even me myself to buy them out of the contract. Amazingly though my suspicions turned out to be unfounded (on this occasion).

They didn't make me sign anything. They wanted to talk to me, presumably to see how much of the personality on display in my videos I could summon on command. Unbelievably for some people, there's not much of a difference between the me you see in my videos and the me you meet in real life. It's more of a distillation than an exaggeration. The next step was they physically sent someone from the production company to check me out in person. I think this may have been one of the few ways being on the Vineyard helped me compared to being in some much cheaper anonymous part of America; "Hey do you want to go on a business trip to fancy-rich-people island to talk to a guy about doing a show?" "Damn Straight I do".

There were a total of three times someone came out from LA to talk to me. One from the production company, and then two from Discovery channel. I showed them what I did and my world, and little by little it became more likely they were going to do a show. A little note in case this is not clear to everyone; "production companies" make the shows, but the "Networks", like Discovery, are the ones who fund the making of the shows. Production Companies are always pitching show ideas to Networks. The Networks goal is to figure out can they make more money selling the real estate in the ad break slots than they spent making the thing in the first place.

The network decided to proceed and I instantly got knots in my stomach. The working title of the show was "Big F'ing Swords", later changed to "Big Giant Swords" when they chickened out. The very late change in name, without consulting me, initially made me disproportionately angry, and I responded by purchasing biggiantwords.com and used it to host a gif of me playing jenga in the nude with my willy. I think my outsized reaction was the result of months of no one consulting me about any creative decision to do with the show, a show they still expected me to promote as "my own". The new name did eventually grow on me, like my willy, but I still own biggiantwords.com to this day. There were going to be many disagreements over the show's artistic direction. Given complete control, I would have wanted the show to be something like Bob Ross but with swords, but they wanted it to be more like every other reality show at the time. That meant they had to assemble a team of people who "worked" for me. The fiction of the show was to be that I had quit all my other work completely, and was finely assembling a team and my own business and so forth. In real life this is incredibly uncharacteristic of me. I believe in taking little baby steps to minimize risk, which is still why only a small number of people know who I am, but I've been around for nearly 15 years on youtube with no sign of stopping, whereas the average lifespan of a youtuber is about 5 years.

One of the first things we clashed over creatively was the origin of the swords being so giant. The reason a lot of my swords are huge is because they are replicas of video game weapons. This is probably as good of a place as any to talk about discovering Hardox. I was using regular steel for most of my weapons, occasionally stainless, as I had deemed that good enough for the big giant silly swords. I had decided at some point that the "giant" part of what I do was less important to me than the "weird" element, and that I could make smaller weapons too as long as they were eccentric in some way. So I got commissioned to make a regular sized sword that I deemed weird enough to interest me, and by extension, my audience. The only problem is I didn't want to make it out of mild steel. For normal sized swords, regular steel is just way too soft. I had made some smaller ones out of spring steel, aka, old leaf springs from the back of trucks, and I had even made a weird one out of an old giant bandsaw blade. This new commission of mine was just a little too wide to use any leaf spring I could find. I'm not sure which one of my million pieces of correspondence mentioned "Hardox", but I decided to look into it. It's a type of plate steel that comes already hardened and tempered. They use it for the scoops on diggers, the beds of rock loaders and such. Anything that has to take a bunch of abuse. It's not as good as the steel they use for "real" swords, but you can get it cut to literally any size. I decided to order some and was extremely impressed by it. It's nearly impossible to drill a hole in it, and unlike the leaf springs can take a weld without any sort of pre-heating or weirdness. Testing it by hitting the edge of a 1/4" piece of Hardox against a piece of 1/4" mild steel, the Hardox took huge gouges out of the mild steel without taking any damage itself. Since discovering it I haven't used mild steel to make a sword.

I bring up the decision that I could make smaller weapons too' cause it relates to the show and the brobdingnagian proportions of the weapons on it. The production company wanted to drop the videogame replica aspect entirely. With the videogame element dropped, the reason the swords were so huge became obscure. If they had told me it was 'cause they didn't want to deal

with the licensing issues associated with depicting weapons from trademarked properties, I could have respected that. Instead they maintained that the videogame aspect would alienate a large portion of the audience, as only children played videogames. This is not true in 2023, and I highly doubt it was true in 2014. The statistics show that only 20% of people who play video games in 2022 are below the age of 18, with the average gamer being 35 years old. It's getting pretty close to any given fact about the average gamer will be the same as any given fact about the average person. To be fair to them, this might not be true of regular TV watching audiences, who skew older, but they specifically told me one of the reasons Discovery wanted the show in the first place was to attract a younger audience. So who knows.

So they wanted me to pretend I had a team of people helping me and they wanted to drop the videogame replica aspect, but surely they'd still keep the aspect where I poured a lot of care and detail into my creations? The premise of the show was to be that I had to make one giant weapon a week. Oh and a smaller weapon too while I was at it. That would be the B-plot. I started to get stressed out, but I rolled up my sleeves and we got to work as best I could. The weapons were to be prepared in various stages of completion ahead of time early in the summer of 2014. Most of the filming was to happen during a 6 week block late in the same summer.

The people we assembled to pretend to be my team were Amerimike, a fellow beardo who did nerd games. He sometimes helped me film my youtube videos, so we were going to pretend he was my constant cameraman. Erik, Amerimikes friend since school, he also liked nerd games but had an interest in making swords and such, so we were going to pretend he was my assistant in the shop. He did actually help me get the half finished swords ready. They also recruited Jamie, a lady blacksmith that I saw around at artisan shows and such on the island, and Jonny, who lived up the road from me but I had never met before filming. The local charter school had a mentorship program, and I had volunteered for it, so there was a kid called Matthew who had been coming to my workshop every Wednesday for a couple of years. I convinced them to include him too. In reality Matthew had spent more time in my workshop than any of the others.

Erik and Jamie helped me as much as they could prior to filming, but there was still a massive amount to be done on the fly when the crew showed up to actually film. A few of them told me afterwards that they'd never worked on a show before where the main star of a show had to work through the night during the actual production, that something had gone wrong organisationally. It was like the island was punishing me for trying to make a trashy reality TV show on it. They initially promised to hire other guys to help work on the swords while I slept, but seeing as how the island is, the other welder/fabricators never materialized, so I didn't sleep. On top of that there were constant struggles about what the episodes were going to be about and such.

Here's a secret; reality TV exists as a union busting technique. You hire actors who aren't actors and writers who aren't writers and make them sign crappy contracts and you don't have to pay anyone royalties. If the show flops, it didn't cost you much to make, but if the show is a success,

then boom, you rake in a bunch of money without having to share any of it. Reality TV has an outsized presence on the airwaves compared to its popularity for this very reason. For a few years after they made the show I'd get excited emails from a slew of French people or Germans telling me they liked the show. They paid me for the six episodes we did, but like most reality TV "stars" I haven't made a penny from them airing the show anywhere since. I got them to buy me a big pedestal drill, my own oxy acetylene rig and a plasma cutter that I still have, so there's that I guess.

I'm still super glad I did the show, as stressful as it was, it helped get my name out there and finally convinced me that I could do the sword stuff full time (which ironically was the fictional premise of the show). I still didn't have enough money to hire help after the show, but I did have enough interest in me to make it my own full time job.

With this crazy, helter skelter schedule, you'd think there would have been more accidents on set, but I only suffered one injury on the show, and it didn't even involve the giant flamethrower sword. I'd wanted to make a flammenwerfer schwert for a while, but I couldn't get anyone to commission it, and was kinda worried about all the ways it could go wrong. Luckily the show was created back to front compared to how I normally did things. I came up with the sword idea, and they found the customers afterwards, the swords were often based on previous things I had made that they wanted me to try making again in episode format, "The Destroyer" was based on a sword I made called the "Sumida Sword", "Zeus Almighty" was based on "When idiots fight with electrified swords", "The Junkyard Crasher" was based on "Atrox the junk sword vs. Car".

I could stretch a little. Like I had wanted to make a sword for Sarah Robles, Olympic weightlifter, for a while, ever since I had read a story about how she had to drive herself to tryouts and sleep in her car and such, but I couldn't find a gap where I could pass up paid work to do a freebie sword amidst all the commissions I was falling behind on, so when the show came up I had an opportunity to get Hollywood to fund that project and get Sarah a little extra exposure. A few years later she brought home the only Olympic Weightlifting America had won in 16 years. So anyway, the flamethrower sword, I couldn't get anyone to go for it from my real customers, but then the show came along it was the perfect opportunity to make one. It looked like a huge dragon's head. Shot a huge gout of fire supplied by a propane tank I wore on my back, was also a giant sword. I didn't die. It was great. Wait. Why was I... oh yeah the one injury I got.

My wrist started to hurt real bad during filming. Like worse than anything before. So in my regular life I'd make a giant sword, which would take a month or two (oh boy it takes so much longer now, more on that later) and then I'd swing it at a target and have a sore back for a little while afterwards, maybe a stiff shoulder. With the insane production schedule of the summer, I'd been working around the clock all summer to get everything ready, and it still wasn't ready by the time shooting started. The shooting schedule was 6 weeks, I had to work through the night on more than one occasion. 6 episodes, 6 giant swords, I was swinging those giant fellas at stuff at least once a week. I strained the tendons in my right wrist. Couldn't grip stuff. Doc said it was tennis elbow. Playing tennis with the world's biggest racquets. They gave me pills and wrapped up my wrist in bandages. The show had to go on! I was in quite a lot of pain through the later

half of the production, which probably didn't help my mood. If any of you guys involved with the show are reading this, sorry I was grumpy.

The show aired in the first part of 2015. I don't watch reality TV, so I don't know what makes reality TV good, but I was told it was good as reality TV goes? Unfortunately, it left the regular reality TV watching demographic a little cold, and eventually they declined to renew. They were hoping for about a million viewers per episode, and it consistently fell slightly short of the target. The highlight for me when it was live was an episode that William Shatner live tweeted that he was watching. The episode featured Matthew getting his own leather apron for outstanding contributions, and Captain Kirk watched and cheered along, it was surreal.

After the show there was a huge influx of messages on the MichaelCthulhu facebook page and my regular inbox etc etc, and like I said, I was finally convinced that I could turn the sword stuff into my full time job, so I did. The weird part was noticing how the TV watching world and the internet are two non-overlapping bubbles. There was a small uptick in my view numbers while my show was on, but it was nowhere near the amount I got when a nerdy website did a feature about me. I felt there was something in the air about me that I needed to capitalize on, but could sense it was already starting to fade away. I realized I couldn't rely on a moderately popular reality TV show to stabilize my popularity, I needed to grab the reins.