

Stem to Stern

Monthly Notes from the Boatyard

May 2023

A Wooden Soldier's Defense

"I want to say one word to you. Just one word. Are you listening? *Plastics*." That memorable line is, of course, from the 1967 movie, "The Graduate". The one-word career advice from Mr. McGuire to Ben Braddock over 56 years ago rings as true now as then. If you want to make real money, it's "Plastics." Plastic products can be mass produced, molded, formed, and extruded into any shape imaginable. Plastic boats and automobiles have been mass produced since the early 1950's. Fortunes have been made by thousands of industrialists utilizing plastic resin. Out on the water, the overwhelming majority of all watercraft up to 120 ft. are built out of fiber-reinforced plastic or "FRP". Chemists, working with marketing gurus, are constantly tweaking the resin/catalyst/reducer formulas for a myriad of applications in hull and superstructure assembly, high strength adhesives, specialty saturation and resin infusion, and structural panels. CNC cut mold surfaces take the human hands out of the equation while robotics will gradually replace hand lay-ups. Plastic boats have been around a long while and are here to stay. You want to make real money? Are you listening? *Plastics*.

And then there is us. Let me begin by saying that I have nothing against plastic boats, cars, aircraft, or anatomical enhancements. Plastic is the nicotine of material-world addiction. It is a near perfect production material in this age of unskilled labor and reliance on the machine. We, too, incorporate the latest in FRP material technology into many areas of our boat construction. In various applications, we substitute plastic for metal structure to reduce weight and provide a corrosion free paint surface in wet areas. Our hulls and superstructures are covered in plastic resin saturated fiberglass, inside and out, forming a protective skin. But to this day, the heart of the boat, the core structure, is still wood. Select Philippine Mahogany and Douglas Fir. Why wood? Ahh....good question.

Wood has been around since before we crawled out of the ocean and it will still be here after maniacal, narcissist politicians nuke this world to ashes or super, juiced-up, gain-of-function viruses take us all out. In the hands of responsible agriculture, wood is infinitely renewable and about as "Green" a product as anything out there. Harvesting leaves only sawdust and the resource can be immediately re-planted. No strip mines, no forced child labor, no toxic chemical spill derailments, no leaching of heavy metals into the groundwater. Disposal of unwanted material can be converted to garden mulch or re-cycled into wood-composite panels. While growing to maturity, wood is nature's own CO2 scrubber. It exists in infinite densities, strengths, textures, and colors. It is lighter than water, which would seem to be a practical argument for building boats out of it. Why then is the number of wooden boat-builders falling like the number of nuclear families?

Wood has a PR problem. It has taken a bad rap in this age of synthetics and is assumed by many as an inferior, outdated construction material. That old DuPont Corporation slogan from the 1930's, "Better living through chemistry" which, in my younger days, referred more to a recreational endeavor than a standard of living, has taken hold and we have all been convinced that industry has a better product for everything. Wood, like people, is subject to deterioration from insects, fungus, and the elements, all of which result from a lack of attention to maintenance. Properly maintained, wooden structures can last hundreds, if not thousands of years. The oldest wooden structure in the world, The Horyuji Temple in Japan, was built in the year 607 and is still standing. The oldest wooden structure in this country, Fairbanks House in Dedham Massachusetts, was built in 1641 and is still standing. The Oak framed and planked USS Constitution, launched in 1797, is still afloat and crewed today by the US Navy. The wooden Whaleship, Charles W. Morgan, launched in 1847, is still afloat at Mystic Seaport in Connecticut. *LEGEND*, our oldest boat, is still in Palm Beach Condition and alive and well in active duty in Atlantic waters. Delivered in 1949, she is as fit today to go to sea as she was when Hank Williams went to #1 on the charts with "Lovesick Blues". It's all about maintenance and pride of ownership.

The dirty little secret in our industry is that FRP requires maintenance as well. Most honest people in boating are aware of the problems of aged fiberglass. A common problem is gelcoat deterioration and the need to strip, fair, prime, and paint the "maintenance free" surfaces. The continuous curing of resin over time and the resulting inevitable brittleness, fragility, and inability to hold a fastening is an undeniable truth as well. Delamination can occur with age resulting in water intrusion, reduced strength and, like people, weight gain. By now, some readers are shaking their heads at my apparent blasphemy. If you don't believe me, spend a little time working in a boatyard. Cut or drill into these boats and report back. We haven't cut into a cored boat yet when installing large transducers, sonars, or bow thrusters where I didn't find some degree of de-lam. Plastic, aluminum, steel, ferrocement, or wood: When you immerse all of them in water along with its sister elements, sun and salt, nature requires you to ante-up. Exposure takes its toll on everything under the sun. Ask my dermatologist.

So why do we still build out of wood when there are high-tech plastics available? Certainly, tradition has a place at the table but there are other more important reasons. Building one-off prototypes out of wood makes it easy to modify the architecture of our hulls. When we want to tweak the hull shape geometry with a new idea, wood is more cooperative than plastic with the tools in the hands of a competent shipwright. It is easy to cut and shape and it bends in a predictable manner. A cold-molded wood hull is lighter (stop smirking, skeptic, and weigh one against the other!) than solid or composite FRP hulls when built with proven engineering and not over-built because you didn't run the numbers. This allows us to run faster and burn less fuel. Wood is economical, readily available, and easily repairable. One doesn't have to wait 8-12 weeks for specialty resins, PVC core, and cloth, carbon, or Kevlar fiber. And.... It doesn't have to come from industrial, environmental filth in China.

There are still a lot of wooden boat fans in the world. Some of the biggest have paid homage in song. The late David Crosby, who gave us so much good music, was a wooden boat fan. I doubt Crosby would have ever pondered post-apocalyptic "*Vinyl ester ships on the water, very free.*" Alan Jackson is another wooden boat proponent. One of the many things I admire about

Alan Jackson is the fact that he writes his own stuff. His song writing catalog is nothing short of a national treasure. Like a custom boat builder, he starts with a blank sheet of paper and works hard to deliver a masterpiece that comes from the heart. In one of my favorites, "Drive (For Daddy Gene)", he recalls his father saying to him, "*You can't beat the way an old wood boat rides.*" Ok, so what did Alan's dad mean by that? It's not necessarily the seaworthiness, but the feel of the boat under you. You can build two hulls from the same lines and body plan, one out of wood, the other out of plastic. Take those hulls offshore under the same power, same sea conditions, same speed, same displacement. The wood boat is going to feel smoother and quieter. Why? The cellular structure of wood absorbs sound and mechanical vibration far better than plastic or metal. Here's a simple test: Set up two sawhorses. Across them, place a plastic, an aluminum, and a wooden flat-bar of equal dimensions. Smack each of them with a hammer. Listen. Now place a reciprocating tool (switched ON) on each and listen. Ok, campers, now weigh those bars of equal dimensions. I rest my case. This would explain why most boats these days have eardrum splitting audio systems spewing bone crushing Hip-Hop or nauseating "New Country": It cancels the sound of plastic crashing into seawater. In addition to its beneficial acoustical properties, wood simply has an essence, a *soul* if you will, that you can never feel from plastic or metal and that's something to sing about.

Change is inevitable. With the scarcity of qualified help in our culture, even *we* have considered a conversion to the plastic boat mold method. Skilled wooden boat builders are rare and circling the drain and because of this, most modern wooden boats are built out of plywood and mud, with mud being the primary component. We're still hanging on to our mahogany hulls, but if labor shortages force us to make the leap at some point, the total custom approach will be gone. No more tweaking since we're married to a mold. Put away your spoke-shaves, boys, and start cruisin' with infusion and don't worry. We can always cancel that plastic rattle in her ass end by turning up the music. Now let me see.... Which is worse, the plastic rattle or the plastic music? Are you listening?

A handwritten signature in black ink, reading "Michael W. Rybovich". The signature is fluid and cursive, with the first name "Michael" being the most prominent part.

Michael W. Rybovich