



## Rochester Woodworkers Society 2005 – 2006 Lectures & Workshops

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### DESIGN By David J. Marks

Out of all the subjects and diverse categories of woodworking, I believe design is the most challenging. Woodworking encompasses so many subjects: casework, turning, bentwood lamination, joinery, veneering, finishing, just to name a few, that design is often overlooked. It is probably the most difficult part of woodworking to quantify. Anyone can look at a dovetail and see if it is a tight fit or has unsightly gaps. A child can run his hand over a piece of furniture and feel whether the finish is smooth or rough, but when it comes to design it is a very subjective issue. I personally have won many awards for my work over the past thirty years. I have seen the same piece of furniture that won an award in one show, be rejected from another show. I strive not to take that rejection personally because on an intellectual level, I realize that the content of a show is a reflection of what the judges like or dislike. As a matter of fact, people can be defined according to their likes and dislikes. So, how do we know how to distinguish good design from bad design? Rather than attempting to answer such a broad question in a black or white framework, my choice would be to approach it from a different perspective. First of all, as a teacher I believe that students need to be encouraged so that they can progress and evolve. A musician might struggle for years producing a lot of mediocre songs before it all comes together and he or she has a hit. The same is true for the craftsperson. Let's say that you, as the craftsperson, have progressed in skill level and would like to design a piece to enter a show. Here is some advice and guidelines.

If you are considering entering your work into a show, the judges will be looking at the

overall visual impression of the work first, and then they will look closer to examine the details. As they take a close look, the craftsmanship will be scrutinized. One thing they will be looking for is tight fitting joinery. This means no gaps or that gaps have been filled in a craftsman like manner. For example, a sliver of matching wood, sawdust and glue, or tinted epoxy are acceptable means of filling a gap. It does not mean that everything is perfect, but there should be no glaring faults. Snug fitting drawers are another area judges will examine. Ideally, a drawer should open and close smoothly without resistance and perhaps bind up when it is fully extended rather than falling out. The same principle applies to doors. The doors should fit snugly with a uniform space around an inset door. Surfaces that are intended to be smooth (as opposed to textured or carved) should have all traces of mill marks removed. For example, saw lines left by table saws and band saws, and patterns left by jointers and planers, all should be scraped and sanded smooth. Another big area is finishes. The finishes themselves should not be muddy; they should enhance the beauty of the wood and allow you to read the grain clearly. Proportions are another area that judges look at closely. Proportions determine whether a piece is awkward or graceful. All other efforts concerning design can be ruined by proportions that do not work. The most well know proportioning system is the golden section which was developed by ancient architects. For myself, I rely on lots of sketches and full scale drawings and mock ups.

No matter how you approach design, my best advice is to be persistent, because experience is the best instructor.

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#### Suggested Reading:

[Designing Furniture](#) by Seth Stem, Published by Taunton Press

[The Nature & Aesthetics of Design](#) by David Pye, Published by Van Nostrand Reinhold

[Encyclopedia of Furniture Design](#) by Ernest Joyce, Published by Sterling

## FINISHING FURNITURE

The finish is usually the last thing that you do when building a piece of furniture, but it is the first thing that someone sees when looking at your work. You can do a great job designing and building a piece of furniture, but if the finish is of poor quality it will devalue the entire piece.

Finishes can be divided into two main categories: air oxidizing finishes and solvent release finishes. Air oxidizing finishes cure by reacting with oxygen and this category includes oils, varnishes, and urethanes. Solvent release finishes cure when the solvents evaporate into the air, leaving a layer of resin on the surface. Finishes in this category include shellac, lacquer, and some water based finishes.

No matter which type of finish you select, keep in mind that approximately 60% to 70% of a good finish is surface preparation. That means scraping and sanding until all saw marks, mill marks, etc, are removed. Tabletops are the most critical and need to be examined in raking light. That means placing a light source near the table and positioning yourself so that you can see the light reflect off the top. As you move around, your eyes should be able to scrutinize every square inch of the top, revealing any scratches, flaws, high spots, or low spots.

Generally speaking, I prefer a hand rubbed oil finish for most of the furniture that I build.

Linseed oil and Tung oil are the two most commonly used oils in finishes and both of them have withstood the test of time. Linseed oil is derived from the flax plant and has been used since the ancient Egyptians. Tung oil is derived from the nuts of the Tung tree which grows in the Far East and was used to help preserve the Great Wall of China.

Both of these oils penetrate the structure of wood cells creating a finish that is "in" the wood as opposed to being "on" the wood. Applying multiple thin coats will create depth and accentuate the figure of the wood.

Oil finishes do not offer the same resistance to moisture that film finishes like lacquer and polyurethane do, but the trade off is that they allow for a very natural looking finish and permit you to experience the tactile quality of the wood. In addition, they are easy to repair. If the surface looks worn, you do not have to strip it and sand it; you simply rub in another coat of oil. I have also found that they can be enhanced by lightly rubbing with 0000 steel wool and applying a light coat of wax.

## FURNITURE DIMENSIONS

The following are some general guidelines for furniture dimensions. These are not absolutes, but are intended as a general dimension to start from:

FURNITURE	HEIGHT	WIDTH	DEPTH
Dining Room Sideboard or Buffet	32" average	48" average	18" average
Dining Room Hutch	70" average	40" average	18" average
China Cabinet	71" average	62":varies from 48"-66"	19"
Bookshelves	36" - 82"	36"	11 1/2"
File Cabinet 2 Drawer Legal	28"	18"	22 - 28"
File Cabinet 4 Drawer Legal	52 1/4"	18"	26 5/8" - 28"
Chest of Drawers	42" - 56"	34" - 40"	18" - 21"
Double Dresser	29" - 34"	60" - 72"	18" - 21"
Dresser	34" - 37"	36" - 48"	18" - 24"
Lingerie Chest	50" - 54"	22" - 24"	16" - 18"
Dining Table Rectangular	27 1/2" - 30 "	24" - 36"	30" - 86"
Dining Table Circular	27 1/2" - 30"	Diameter: 24" - 62"	