

# Thoughts on Oil Finishes for Wood

by James Vincent Doody, Jr.  
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## On Surface Preparation:

- ◆ Getting a "glass-smooth" finish isn't especially tricky, but it has much less to do with finishing materials and technique than with adequate surface preparation. Plane, scrape, and sand (but do **not** burnish) the wood until it is perfectly flat and smooth.

## When *not* to use an Oil Finish:

- ◆ Open-pored woods like mahogany and oak need to be sealed, sanded, resealed, and then filled with a (possibly colored) paste or liquid filler to support a glass-smooth finish. I don't see people even try with oak but mahogany can look lovely and glossy with proper scraping, sealing, sanding, filling, resanding and then coating with shellac, French Polish, or lacquer. It's a lot of painstaking work!

## On Applying an Oil Finish:

- ◆ Closed-pore, tight-grained woods like cherry, birch, and maple don't need the sanding sealer and filler step at all and will let you just work up to 320 grit sandpaper before applying any finishing material. Contrary to common myth, an oil finish can produce just as high a luster as lacquer, shellac, or [shudder] varnish. Apply a coat of thinned "Danish Oil" liberally and wipe dry after 30 minutes. You'll cringe when you notice that your painstakingly sanded surface is no longer smooth because the liquid has raised the grain a bit.
- ◆ Take 0000 steel wool lubricated with mineral spirit or even some of the thinned oil and smooth it back down. Use some elbow grease! Wipe dry. Do the same thing every day for a week. Depending on the size of the piece, we're talking about 15-30 minutes of muscular but not at all finicky or error-prone work. Never leave a film of liquid oil on the surface for more than 30 minutes! Wipe it off or you'll have a sticky mess. Each day, use less oil and much less thinner. Your rag or steel wool should be almost dry and be taking off nearly as much as you're putting on.
- ◆ One day, you'll see the luster suddenly looking high and fairly uniform. Scrub it well with 400 or 600-grit wet/dry sandpaper and a highly thinned oil. Leave it 30 minutes and wipe gently with a soft cloth. The next day, if there are any really dull spots, rerun the wet/dry rubbing over the whole surface. Don't overconcentrate on the dull spots. A repetition or two should do it.
- ◆ By the way, if you have any really persistent dull spots, it's surely because you scrimped on the scraping and sanding! Go back to the right grit in wet/dry paper and sand the whole surface smooth with liberal use mineral spirit as a lubricant for the oily dust. Work back up to 320grit. Again, don't concentrate on the rough spot or you'll sand in a depression! You don't need to remove the oil finish already applied but you'll obviously be sanding much of it away. Vow to do that sanding right at the proper stage the next time! It's a heap easier!
- ◆ When the oil is all rubbed out and dry, apply a coat or three of a good wax. When I use Watco Danish Oil (about three-quarters of the time), I use the Watco liquid wax. Over shellac and lacquer, I use Behlen's paste wax and rub hard. On top of Waterlox Danish Oil, I use either wax but probably mostly the Watco liquid
- ◆ I'll be very surprised if you don't like that finish and it's by far the least error-prone in application and the easiest to maintain. Once a year, maybe, you'll want to wipe off the dirty old wax with mineral

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spirit and rewax. Any scratches or abrasions can be blended away with some fresh oil and 0000 or 600-grit wet/dry. It will look like new for several lifetimes if maintained this way.

### **On the Speed of Lacquer and its Tradeoffs:**

- ◆ A sprayed lacquer finish on a properly prepared surface gets you that same mirror gloss after 5-6 coats and they can all be applied, dried, hit with 0000 or wet/dry, and resprayed in an hour or so on the same day you take the glue clamps off. That's **great** in a factory.
- ◆ For the lacquer, you need a dustless, ventilated spray booth, a mask, and a spray setup. You also need to develop a lot of skill to prevent running, orange peeling, fisheye, puddling, and myriad other diseases and woes of spray finishes. The investment in facilities, equipment, and skill development is worth it for a production operation because they don't want to keep the pieces around for my week-long oil regime.
- ◆ For me, by the way, the daily oil rubout is a normal part of my morning coffee! I drink my first cup while rubbing out whatever piece hasn't come up to my particular desired luster level yet.
- ◆ Anyway, the lacquer coating is much harder to maintain. Lacquer can be redissolved in lacquer thinner in an effort to heal scratches but it loses its "newness" beyond redemption after hard use or many years.
- ◆ The oil takes longer but takes less work and skill and care. The result is far more maintainable.

### **On Hearing Varnish Urged as a More Durable Alternative:**

- ◆ Varnish doesn't give the appearance of oil, although, oil can give the glossy appearance of varnish with enough work. Varnish is a COATING, a fact which becomes loathsomely obvious when weathering or attack by water or light causes it to begin to peel. The appeal of varnish and, as is often mentioned, the one-step coatings which include wax, is that a production cabinet operation can get a shiny, moderately durable finish on wood in a single step or in a very small number of steps on a single day instead of a few minutes every day for a week or more.
- ◆ A properly applied oil finish, whether its luster is low or high, is vastly more durable AND maintainable than the world's best varnish or one-step product. Vastly! There's no comparison! When an oil finish does begin to degrade, you wipe off the wax with mineral spirit and get some steel wool or wet/dry and rub in a bit more oil in the degraded area to restore its original state. When varnish degrades, you get to **strip the entire** piece and refinish.
- ◆ Consider shellac. That and its derivative French, Polish clearly belong, along with oil, to the repertoire of the fine furniture finisher. For the restorer, they are vital. Shellac is also great when maximum maintainable water resistance is needed. The problem I have with shellac and French Polish is providing a dust-free finishing room. Oil is far less demanding.

### **On the Daily Rubbing Out:**

- ◆ If you put it on very wet after the first couple of coats, oil does indeed build up a nasty tacky, layer that's hard to get off.
- ◆ The trick is to use LESS oil each day and to rub HARD with the 0000 steel wool or the 600grit wet/dry sandpaper.
- ◆ There's a knack to knowing how much. The good news is that, despite some of the expert advice, you can just sand away the excess with mineral spirit as a lubricant. You lose two days if you get that tacky

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coat. I spread the oil out on an almost dry rag or on a barely damp steel wool pad. You need to get out of the psyche of the one-step finishes and not worry if you don't get a uniform gloss today. Leave the streaks, rub them out, and hit it again tomorrow. One day, it'll mostly have the luster you want: high, low, or in between. Then, rub again with a highly thinned coat of oil, wipe dry after 15 minutes, and wax it the next day. You'll love it!

- ◆ I thin Watco or Waterlox with bulk-bought generic "Mineral Spirit" or occasionally with generic "Naphtha." I don't know the ratios I use but it varies by ... I don't know. I don't think it's really critical. You want good lubrication without enough buildup to stay tacky.

### **On Using Pure Oils:**

- ◆ Pure tung oil is unusable. You must thin it to work in into the wood. Linseed oil can be heated to reduce its viscosity instead. Either then takes a painfully long time to dry, although tung is far worse.
- ◆ When I was growing up, I used warm thinned linseed oil as a primary finishing material and also used hand-cut shellac a good deal. Of course, when I was using pure linseed, I was back East and always warmed it on the radiator!
- ◆ When I first discovered the prepared Danish Oil finishes, I was leery and also was put off by the prices (I was a starving graduate student at the time). The (relatively) rapid drying sold me on them, though, and I don't think I own any "pure" oil any more.
- ◆ I also tried out some prepared shellac and can say without hesitation that it's as worthless as the prepared oils are useful! Buy solid shellac and cut it yourself with pure methanol or the Behlen shellac thinner.
- ◆ The so-called "Danish oils" use linseed or tung oil as a base. Watco uses linseed and Waterlox uses tung. Both contain solvents as thinners and various hardeners and drying agents to minimize the drying time.
- ◆ Some of the hardeners used ARE resins but are a small fraction of the entire material. The products behave and end up like a thinned, faster drying oil and not at all like a resin coating.

### **On Whether there are "Stronger" Finishes:**

- ◆ There are dozens of prepared oil finishes but what I was saying about oil finishes is very specifically true of Watco Danish Oil. I use Watco for at least 70-75% of my finish work. Waterlox Danish Oil is at least as good but harder to find locally. Both Watco and Waterlox come in special formulations for cases of extreme water resistance. I think Watco's is "Outdoor" and Waterlox's is called "Marine." Both work very well on my outdoor furniture and woodwork and on my sailboats' brightwork.
- ◆ Now, "stronger" is a funny word. I've seen polyurethane "boxes" around fir which had rotted away. Is that "strong" by your definition? I use a little polyurethane varnish at times where I want a plastic finish. It holds in the splinters, for example, on the ladder stiles and slide rails of my daughter's redwood playset. It's also breaking down from the sun after 30 months and will need to be stripped unless I just remake the pieces from scratch.
- ◆ An oil finish doesn't need to be pampered but it will protect the wood less from abrasion (scratching) and even moisture than will a big buildup of some coating. However, it's MUCH easier to maintain without destroying its fine appearance. For indoor furniture, I feel that it's ideal. I might prefer shellac on a tabletop now and then. I'll often use French Polish on a period reproduction or restoration. On complex shapes, such as musical instruments, lacquer is surely easier and, when properly applied, more stain resistant. For most fine furniture in the styles I build, though, oil is perfect!

### **On the Authenticity of Paint for Shaker Furniture:**

- ◆ The Shakers **did** use paint quite a lot. In some communities, the paint was used on the more utilitarian furniture and on outdoor stuff while the fine pieces made from nicely figured hardwood was left clear. In other communities, too much natural wood display was judged a vanity and paint was mandated to obliterate the "sensuousness" of the figure!

### **On my Favorite Finish Cherry — and Why I like a "natural" hand-rubbed Danish Oil finish on cherry:**

- ◆ It leaves freshly cut cherry looking lighter than the stains and dyes factories use but exposure to light will darken it beautifully within a year. A linseed-based oil finish will also hasten the darkening while a tung-based material will get there eventually.
- ◆ My most frequently chosen material is Watco Danish Oil but I've also used Waterlox and like it at least as much (but it's harder for me to find locally).
- ◆ There are two wonderful things about the hand-rubbed Danish Oil finish on a fine-grained, closed-pore wood like cherry.
- ◆ One is that it's pretty nearly foolproof in application. Any mistakes are easily corrected, either on the fly or a day later when they're noticed.
- ◆ The other is that it's very easy to maintain, Clean it up with mineral spirit, steam out dents, patch or fill or feather gouges, scrub it out a little with steel wool, and scrub in a few more coats of oil. The results will be excellent and no stripping is ever required. This is a big advantage over reactive varnishes!
- ◆ The only downside is that it takes a few days to apply the finish: even a week or more if you fuss or if you didn't prepare the surface well to begin with. It may not take any more of YOUR time than a spray finish but you can't ship the piece the day the glue dries the way the furniture factories who love sprays prefer.
- ◆ As with any finish, even paint, the real secret is to prepare the surface well before applying any finish. Cherry, unlike many other fine furniture woods, needs no pore filling and will allow you to work through sanding grits until the wood is practically polished to a gleam with no finish at all. Depending on how fussy you are, you can go on to wet/dry papers (wet with mineral spirit) to 320 or even 400 grit. Going to at least 220 grit is pretty much essential with cherry. Don't burnish the wood, though!
- ◆ I slosh on my first coat of Danish Oil, sometimes cut 50% with mineral spirit, let it soak in for 20-30 minutes, and then carefully wipe up any excess or puddling with a rough but lint-free cloth. The next day, I scrub everything hard with 400 grit wet/dry or maybe 0000 steel wool and rub on another fairly liberal coat of oil but keep rubbing until there are no puddles or drips.
- ◆ On the third day, the piece is going to look very good and many woodworkers stop there. However, in a good light, you're likely to see some very shiny areas and some dullish ones. It's a natural temptation to do a little sanding and scrubbing in of fresh oil to the dull spots; resist the urge! Instead, scrub the whole piece with your chosen abrasive and then scrub in a little more oil everywhere using a cloth barely moistened in the oil.
- ◆ Repeat this process every day; it takes only about ten minutes on a typical table and maybe twice that time on a case piece. Use a little less oil every day until you're using a practically dry cloth.

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- ◆ One day, the shiny/flat contrasts will be gone and the piece will have a uniform luster that exhibits all the depth of grain and figure to perfection and makes you want to stroke it just for the sensual appeal of such beauty.
- ◆ If you and your family can't resist the stroking or if it's gathered any dust, wipe the piece down again with mineral spirit and a soft, lint-free cloth and then apply a coat of a first-class wax. Buff the wax the next day with the soft cloth.
- ◆ Once a year or so, wash the wax off with mineral spirit; you'll be amazed at how dirty it is when you look at the cloth! Steam out any dents and then renew the wax. The dirt that catches in the wax was obscuring the wood slightly and its removal with the old wax and replacement with new restores the lovely luster. The wax protects in some measure against spills and dings and scuffs as well as dirt.
- ◆ Every kind of wood has its own perfect finish; for cherry, I think it's this one!