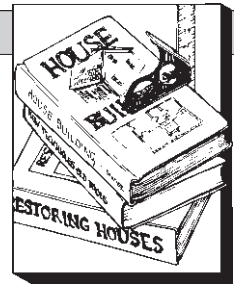


Classy Concrete

Finishing Concrete Slabs, Exposed Aggregate, Patterns, and Colors by Portland Cement Association, PCA, Skokie, Ill.; 1987; 10 pages, booklet, \$3.95 includes shipping.

Color & Texture In Architectural Concrete by Portland Cement Association (see above); 1980; 32 pages, booklet, \$5.95 includes shipping.



Think of concrete and you almost automatically think boring — but it doesn't have to be so, as these two Portland Cement Association publications demonstrate.

Finishing Concrete Slabs give ideas, black & white illustrations, nitty-gritty details, and specs for dressing interior and exterior slabs. It describes the use of exposed aggregate (seeded, topped, or brushed), stamped patterns (although no sources for stamping tools are listed), texture, color, and decorative wood divider strips.

Color & Texture expands on these patterning techniques with dozens of glossy color photos of buildings and details. It discusses white concrete (cement, aggregate, admixture, and form selection), coloring (pigment types and tests), and precast and cast-in-place exposed aggregate. In addition, patching, cleaning and protection methods are covered. It also considers texture, patterns and scale.

Color & Texture has a broader scope and more inspiring illustrations than Finishing Concrete Slabs, but it's a bit behind in technical how-to information. Get both and add some pizzazz to your next project.

Woodworking Delight

The Woodwright's Shop starring Roy Underhill (weekly on PBS television stations; consult local listings for time and channel).

The Woodwright's Shop, 197 pages; \$12.95 paperback; **The Woodwright's Companion**, 189 pages; \$12.95 paperback; **The Woodwright's Workbook**, 243 pages; \$12.95 paperback; - All from University of North Carolina Press, Chapel Hill, N.C.

My wife and I are educating our eight-year-old at home. His curriculum for this year includes "shop" and the study of simple machines, and Roy Underhill's PBS TV series *The Woodwright's Shop* (produced by North Carolina ETV) has become a regular Saturday noon "class" for us. Each week the vibrant Underhill — master housewright at Colonial Williamsburg — appears in his red suspenders and tweed cap to lead viewers in his good humored, fast-paced (often breathless) fashion through the arcane and fascinating world of traditional woodcraft.

One recent show taught us about the use of a carpenter's drug (actually a 2-wheeled cart for log moving, not a narcotic), pit-saws, parbuckles, log ramps, spike dogs, snub lines and other tools for working up logs.

Underhill supplemented his narrative and demonstrations with frequent references to a rare 1725 book on tools and techniques of the time.

A few weeks later he led us through the North Carolina homestead of Underhill's great, great grandparents. Here we saw the outhouse (containing the "opposite of oral history," quipped Underhill), the slave quarters, and watched as Roy climbed into the barn (to avoid a wasp's nest near the door to show us graffiti left by early post-riders who slept in the loft. Another recent episode focused on rustic Adirondack furniture, culminating in Underhill's "art" stool — made from branches of thorny Devil's Walking Stick formed into a heart-shaped seat.

I wouldn't miss the show, so take a peek — you might become an addict yourself. Consult local PBS listings for time and channel.

For those without access to PBS, or who want to explore the subject further, Underhill has authored three books based on his series. The *Woodworker's Shop* (1981) starts with an introduction to trees and wood — from ash to persimmon to willow — and continues with an overview of traditional tools like adzes, froes, gluts, and scorpis. Later, in a discussion of specific projects, he covers the use of spring-pole and treadle lathes. Projects include rakes, chairs, basket and seat weaving, and bowls. The book also provides an introduction to blacksmithing, joinery, log house and timber frame construction.

The Woodwright's Companion (1983) demonstrates "how to start with a tree and an axe and make one thing after another until you have a house and everything in it."

Well, almost. In this volume Underhill elaborates on his tree wisdom and describes finding, evaluating, and restoring old tools. I learned where the expression "by hook or by crook" comes from (hint: Medieval peasants), about New World forests, and how the second boatload of settlers bound for Jamestown included a team of Polish tar experts in search of pitch resources for British naval uses. Other trivia includes the source of the term *lumber* — originally meaning "discarded material," but used in colonial America to refer to trees that got in the way of farming. Practical information begins when Underhill tells us how to make window sash, helves and handles, whetstones from quarry rock, "crow chasers," rail fences, and willow whistles. The book ends with chapters on planes, riving, pit saws, and a brief review of a housewright's life.

Finally, *The Woodwright's Workbook* (1986) gives step-by-step instructions for projects from the 1986-87 TV series, including photos and measured drawings for work-

bench, ladder, hygrometer, and for screwboxes and taps, lathes, tool chests, and chairs. Making such things as spoons, collapsing cups, even a row-boat, is described in detail. For the more adventuresome, there is a detailed chapter on constructing a timer frame barn, a forge, and perhaps the ultimate project, a fort.

For the literary minded there is an

annotated translation of the humorous 15th century poem, "The Debate of the Carpenter's Tools," plus the original text ("The shype ax seyd vnto be wright,..."). All is presented with hundreds of black-and-white photos, in Underhill's characteristically exuberant, knowledgeable, and light-hearted style. Informative, inspiring, and delightful.

—Paul Hanke

Free & Cheap

Keeping Dry: *A Guide to the Use of Waterproofing, Dampproofing, Protective and Decorative Barrier Systems for Concrete* is a 44-page update to the 1966 ACI committee Report, *Guide for the Protection of Concrete Against Chemical Attack by Means of Coatings and Other Corrosion resistant Materials*. Seven chapters, replete with references and additional source lists, move from a general discussion of waterproofing and dampproofing barrier systems to more detailed coverage of the selection design, and application of these and other barrier systems. To order, send \$25.50 to the American Concrete Institute, Box 19150, Redford Station, Detroit, MI 48219; 313/532-2600.

Concrete Assets: The National Concrete Masonry Association has published *How Concrete Masonry Leverages Asset Values and Operating Performance: A Guide for Real Estate Lenders, Developers and Investors*. The 11-page report presents association's view of concrete masonry's advantages and how they relate to real estate values and prospective investments. To order, send \$1 to NCMA, P.O. Box 781, Herndon, VA 22070; 703/453-4900

Tips On Tilt-Up: *Tilt Tips* is a free periodical technical information sheet carrying helpful and new information on tilt-up concrete construction. The first two-page issue, "Preventing Weakened Downside Surfaces on Tilt-Up Panels," addresses the problem of surface defects on panels, some causes, and possible laboratory-tested solutions. To order, write Don Musser, Executive Director, Tilt-Up Concrete Association, 5420 Old Orchard Road, Skokie, IL 60077; 312/967-7700.

Concrete Make-Overs: *Finishing Concrete Slabs, Exposed Aggregate, Patterns and Colors*, published by Portland Cement Association, is a ten-page guide to decorative finishes for concrete surfaces. Both interior and exterior techniques are described, including surface treatments and various finishes. Send \$2.95 to PCA, Order Processing, 5420 Old Orchard Road, Skokie, IL 60077-1083; 312/966-6200.

Eradicating Radon: A 20-page booklet, *Radon Reduction In Wood Floor and Wood Foundation Systems*, defines radon and its various means of entry into buildings, and describes mitigation techniques appropriate

to different types of wood foundations. Although not a "how-to," additional information sources are listed, including EPA publications. Send \$4.50 per single copy or \$3.75 each for six or more copies to the National Forest Products Association, 1250 Connecticut Ave. NW, Suite 200, Washington, DC 20036; 202/463-2700.

Engineering Aid: *The AFSE Geotechnical Engineering Proposal Cover Sheet* offers tips to help reduce delays and obstacles caused by subsurface conditions on site, and discusses the responsibilities and role of the geotechnical consultant. Prepared to improve communication between design professionals, contractor, and client. Available for \$5 from the Association of Engineering Firms Practicing in the Geosciences, 8811 Colesville Road, Suite G106, Silver Springs, MD 20910; 301/565-2733.

Know Your Mortars: through PCA's six-page edition of *Masonry Cement Mortars*. This booklet defines and describes the properties of masonry cement in clear, readable terms, from workability and durability to appearance and strength. Includes preparation tips for cold-weather mixing, as well. To order, send \$3 to Order Processing, Portland Cement Association, 5420 Old Orchard Road, Skokie, IL 60077; 312/966-9559.

Slab-Happy: An in-depth guide to the properties and specific uses of masonry cement is found in the *Cement Mason's Guide*. Twenty illustrated pages provide step-by-step instructions for subgrade preparation, frame work, placement, and finish work of concrete slabs and steps. Also discusses prevention of specific surface defects. Available for \$5.95 from PCA, Dept. DP 5420 Old Orchard Road, Skokie, IL 60077; 312/966-6200.

A Word on Wood: *Permanent Wood Foundation: Guide to Design and Construction* is another free publication for the APA. This 58-page booklet defines the features of permanent wood foundations, provides in-depth descriptions of construction and installation, and discusses site considerations. Detailed tables and illustrations cover structural requirements and design/construction details. To order, write to the APA, Dept. A400, P.O. Box 11700, Tacoma, WA 98411; 206/565-6600.

ately using the slab to store heat, insulation is a must if high water is possible. In this case, the lost energy seemed to be a minor and unlikely problem. It did not justify the substantial added expense of slab insulation. Step by Step You can solve any foundation water problem by following the same general method we used on the hilltop house. The step by step process is described below. First, define the conditions. Collect all the data you can about the nature of the soil and rock, the height and variability of groundwater, and the surface drainage characteristics. Find out what problems the neighbors have. Second, set standards. In addition to what building codes, state and local ordinances, and engineering standards predict, the owner must establish a level of tolerable risk. This is an important step because what will be a problem for one owner (for example, someone building and expensive custom home) may not be a problem for a spec builder who would rather save money now and fix a problem later if it occurs. Next, you must define the problem. Give the building design and site conditions and the owner's aversion to risk, what problems are likely to occur? How often will they occur? And what will be the consequences? Now, choose a solution. The designer, builder, and consultants provide information and professional judgment; the owner decides where to stop. If the designer or builder does not provide options, the owner is likely to assume that no problem will arise and all possible precautions have been taken. If the owner wishes to take unreasonable risk, the builder or designer should either insist on higher standards, secure a release from	responsibility, or resign. The last step is the one that trips up many inexperienced builders and architects. When making cost estimates, don't fix the cost of protection from underground water, just as one excludes and does not fix the cost for blasting or removing oversized rocks. Don't assume or imply to the owner that you can solve the problem for a given price. And in the worst cases, don't imply the problem can be solved at all unless you are sure it can. When you consult with an owner who intends to buy a lot to build on, be sure the owner understands the risks before buying. This mundane sounding decision-making process is actually quite exciting because each step must be taken with highly imperfect information. Houses cost about 25 cents per pound, and only one example of each design is built. By contrast, a jetliner costs about \$250 per pound and is produced by the hundreds or thousands. One must be hundreds of times more careful designing a jetliner, and the quality of design data is proportionately more precise. We in the building trades simply can't afford such precision. The Moral If there is a moral in all of this, I guess it is that one had better not take chances with groundwater, because groundwater problems are difficult to solve after the fact. Problems with high groundwater abound, and there are many people who run dehumidifiers all year round to keep their basements dry because they did not pay enough attention to it. If groundwater rises above the basement slab for some part of the year, the basement might become useless. ■ <i>Gordon F. Tully is president of Tully & Ingersoll Architects in Cambridge, Mass.</i>
---	--