

Professional Affairs

SWST PROFESSIONAL REFERRAL SERVICE

The Professional Referral Service maintains a data bank of information about the special areas of expertise of professional wood scientists and technologists who are society members. Objectives of the service are:

To help SWST members obtain employment that makes best use of their education, experience, and aptitudes, and that meets their career goals.

To help employers locate those professionals best qualified for positions they desire to fill.

To provide current information on the special training and experience of members that may serve as a resource for organizations or individuals in need of specialized information.

The service will respond to requests for full-time employees, consultants, or names of professionals who are willing to discuss questions or problems in their area of expertise. A nominal fee is charged for employment referrals. Direct inquiries to: SWST Referral Service, P.O. Box 984, Mississippi State, MS 39762, or telephone (601)325-2116.

CHALLENGES FACING THE PROFESSIONAL ARCHITECT WHEN DESIGNING WITH WOOD¹

Elmer Botsai, FAIA

Dean

School of Architecture, University of Hawaii
Past President, American Institute of Architects
(as abstracted by W. Wayne Wilcox)

(Received 1 October 1980)

The title suggests that the challenges of working with wood belong to the architect alone. Actually, I hope to convince you that the real challenges face both of us, the architecture and wood science professionals alike, when an architect tries to design in wood. Equally important to both of us are the ramifications if the architect fails. In reality, I'm raising questions about the future—our collective future. The society in which we function is constantly changing, and the current rate of change is more frenetic than ever before. We must adapt to and meet these changing needs or go the way of the dinosaurs. Current trends in society that affect our operation include: growing emphasis on the quality of

¹ Presented at the SWST Annual Meeting, Boston, 6 July 1980.

life, new legal constraints, conservation of resources (currently led by energy), rebuilding of our cities, higher expectations of products and services, and a desire for a richness of our surroundings. The architecture profession must respond to these trends and needs of people if it is to fulfill its role in society. Quality architecture can and should satisfy these needs. To do this, however, we need new levels of competence, greater efficiency, and better products—cheapness is no longer a singularly satisfactory criterion. We must have new and better methods of self-policing our collective mistakes or government and the society will do it for us. Fundamentally, we need more education. The architectural profession needs both more factual information on the products that it uses and products that will live up to the claims made about them. Frankly, in my opinion, the wood industry is failing us in both of these critical areas.

How does an architect face these challenges when designing in wood? To simply say “very carefully!” may be correct but is totally insufficient. All too often he or she may be unknowingly working with inferior products and be insufficiently informed about the products and materials being used. In my experience the quality of wood used in construction has declined steadily over the past two decades. Even more distressing is that while knowledge of wood properties has increased greatly during this period, the architect finds it harder than ever before to obtain this knowledge and nearly impossible to become informed on its ramifications. As an architect who loves wood and has always used it extensively, I find this situation deplorable.

If you would argue that these accusations are false, try to explain to me how the following situations can occur: (1) A recent order of \$50,000 of framing lumber arrived in Hawaii with over 50% of the 2 × 4's having a wide dimension of 3⅞" or less. (2) Hemlock and true fir are now grouped together because it is too difficult for the industry to tell them apart. The user can certainly tell them apart if he tries to pressure-treat them. (3) The continued delamination of textured plywood in exterior exposure. (4) The increasing lack of quality control in a wide variety of plywoods particularly in the Southwest. (5) Acceptance by the industry of code standards on wood fastenings that are unrealistic for wood performance in the field. (6) The gradual increase of acceptable moisture content in lumber called “dry.” (7) The failure of the plywood industry to inform architects that specifying Douglas-fir plywood does not guarantee that all plies will be of Douglas-fir. (8) The unwillingness of the plywood industry to consider the need for being able to specify the wood species of plies on the basis of their durability rather than their strength. (9) The failure of the treating industry to openly address the issue of variation in penetration of different wood species. The industry uses both penetration and retention as measures of quality control. Why not share both parameters with the user rather than stating that the treatment meets the retention requirements when, in fact, very little of the wood has been treated? (10) Failure of the treating industry to adequately inform the user of potential problems associated with the high moisture content of waterborne-salt-treated wood. (11) Finally, and perhaps closest to home, the apparent unwillingness of the wood research community to deal with field-oriented, user-oriented problems. These are not hypothetical arguments; they are all real situations that have led to building failures with which I am personally familiar.

We are not properly responding to the needs of the public. We are so preoc-

cupied with our own needs and whims that we are beginning to believe our own PR statements. Because of our action, or inaction, we are in danger of being overwhelmed by the Tyranny of Bureaucracy. If we don't correct our own deficiencies, our clientele will. Our courts are already well on their way and the government is not far behind.

Already there are a number of governmental and pseudo-governmental agencies that have developed to "help" us with our problems. The following is but a brief listing of some with which I have had personal interaction:

HUD—This agency has, in my opinion, probably been the primary element in the modern overall reduction in building quality. It has been the principal agent in the growth of large developers. Furthermore, it has been unable to determine whether or not its own programs are cost-effective. I would categorize the agency as a general blight on the entire construction scene.

OSHA—I am sure you are more familiar with problems of dealing with OSHA than I; however, this is another agency that has been unable to tell us if its regulations reduce, increase, or have no affect upon worker safety in the construction area. I am not aware that they have ever undertaken controlled testing of their ideas and, in fact, they generally have been unable or unwilling to provide data on accident rates in operations at which their regulations are aimed.

NIBS (National Institute of Building Sciences)—The membership criteria alone appear to be designed to assure that the staff of the agency will control its output.

ICBO—It is too big and unwieldy and would function better with more local control.

My main complaint with these agencies is that I have yet to meet a person from the construction professions with influence in them. I am convinced that these people are not venal, they simply have insufficient education and experience to deal adequately with the construction arena. Congress is openly at fault through its usual response of superficially becoming aware of some flaw or need in developing an agency to solve the problem while at the same time giving it no guidelines or methods of measurement and evaluation. I am very much afraid that the combination of a lazy or cynical, poorly informed Congress and entrenched bureaucratic institutions with a rule-making mind-set have the capability of destroying our future.

If we are to reverse this trend—the ultimate destruction of the construction professions as we know them—we must work together—your profession and mine—to develop a strong counterattack. We must demand that the agencies controlling us demonstrate a measurable need prior to taking action, that their mandate and guidelines are clear, and that they constantly reevaluate their criteria and procedures for effectiveness.

We are in a unique position. We do still have an option. We can solve the problems ourselves and not allow public indignation to extend bureaucratic influence further into our areas of expertise. We have developed the most bountiful and meaningful quality of life this earth has known. We have amenities at our fingertips that boggle the mind. Our life is rich beyond belief, and our wood resource—with its warmth, texture, and desirable human qualities—has been a major factor in the richness of our construction heritage. I believe this heritage

is worth saving and even enhancing. Do we build upon this richness for our children or do we let it slip away deficiency by deficiency, government rule by rule, into a morass of mediocrity?

It *is* our choice, but the time for decision is now. I appeal to you in the wood science profession to help us in the architectural profession to solve the problems we are facing, together, in order to assure continuation of our traditional dependence upon wood in building design.