

# SOCIETY OF BUILDING SCIENCE EDUCATORS

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## SBSE NEWS

## FALL 1999



photo: Bruce Haglund

SBSEers wait on the Tadoussac wharf for la Famille Dufour's lounge lizard-infested catamaran to whisk them away to Québec City for post-retreat Canada Day festivities.

### TADOUSSAC RETREAT REPORT

Twenty-odd *fortwentyodd?—ed. 's ed.*/SBSEers descended on the resort village of Tadoussac by air, water, and land. The three days in June featured . . .

#### MEASURING SUSTAINABILITY: OCKHAM'S RAZOR DOESN'T CUT IT—HAGLUND

We were reintroduced to a set of evolving and complex tools—including the *Green Building Advisor*, LEED, BREEAM, and the GBC guidelines—for measuring sustainability. Each of these has its strengths and weaknesses, and each requires concentrated effort for effective use. Perversely, we rediscovered an older (c. 1969), much simpler tool, Malcolm Wells' Wilderness-Based Checklist for Design and Construction, a provocative model for stimulating students' awareness of sustainability issues.

Seven groups of three were formed to use the Wellsian checklist to evaluate case study buildings that demonstrate their designer's awareness of sustainability issues. The groups also critiqued the checklist; we suggested new items and edited or deleted old items. The groups reported back with red ink-stained checklists that high, dry, and happy landlubbers Haglund, Kwok, and Reynolds used during the Great Whale Watch and Rainstorm to fabricate an updated Sustainability-Based Checklist, available in spreadsheet format to all SBSEers. Ask for it <bhaglund@uidaho.edu>.

#### MEASURING TEACHING EFFECTIVENESS—BROWN, CLARK, DEKAY, LAVINE

"Somethin' happened here. What it was ain't exactly clear. There's a man with a pun over there." You can finish the lyrics or e-mail the presenters to find out—<gzbrown@oregon.uoregon.edu>, <clark@vt.edu>, <dekay@arch.wustl.edu>, or <lavin001@maroon.tc.umn.edu>.

#### MEASURING THE CONCISE CURRICULUM—BOAKE

The Lone Ranger Syndrome, caused by solitary independence without cooperation or integration of passive and sustainable design issues in design studios, is one of the many problems we wrangle in our teaching. If we do not teach passive and sustainable design, it is not taught.

### SBSE CALENDAR

#### 1999

- Sep 18–26 PLEA 1999 Conference;  
Brisbane, Queensland
- Oct 29–30 ARCC Annual Meeting;  
Washington, DC

#### 2000

- Jun 3–10 SBSE Workshops; China
- Jun 16–21 ASES Solar2000 Conference;  
Madison, WI
- Jun 21 SBSE Annual Meeting;  
Madison, WI
- Jun 21–24 SBSE Retreat; Taliesin, WI
- Jul 2–5 PLEA 2000 Conference;  
Cambridge, UK
- Jul 4–8 ARCC/EAAE 2000 Conference;  
Lyon, FR ||

### BALLOTS IN THE MAIL

Paul Clark, Mark DeKay, Alison Kwok, and Mike Utzinger have been nominated for president-elect and Terri Meyer Boake was renominated for secretary/treasurer. Look for your ballot, dues notice, and new SBSE directory in a separate mailing. Let me know if you don't receive this mailing by October 1. ||

—Bruce Haglund

## LETTER TO THE EDITOR

Thanks for mentioning *Green Building Advisor* in the summer *SBSE News*. Due to some changes at CREST (they have merged into another nonprofit organization, REPP—Renewable Energy Policy Project), we are now handling all *GBA* inquiries and orders here at E Build, especially those for site licenses.

Your lobbying has been successful! The *GBA* development team has agreed to a reduced price for *GBA* sold directly to students—\$69 per copy (that is \$110 or 60% off the full retail price). We will sell copies in bulk to college and university bookstores for slightly less. Inquiries about these rates should be directed to E Build—phone 802-257-7300; fax 802-257-7304; e-mail <dan@ebuild.com>.

The site license pricing remains the same.

—Dan Woodbury, E B N

*[Thanks to you and Gail Lindsey for listening and acting! My design studio students are now the proud owners of this valuable design tool. I hope lots of SBSEers take advantage of your enticing offer.—ed.]* ■

*SBSE News* is published quarterly by the Society of Building Science Educators, a not-for-profit corporation. Material for publication should be submitted to Bruce Haglund, Editor; Department of Architecture; University of Idaho; Moscow, ID 83844-2451; phone 208-885-6781, fax 208-885-9428; e-mail <bhaglund@uidaho.edu>; before the first of March, June, September, or December. Membership and mailing list inquiries should be directed to Terri Meyer Boake, Secretary/Treasurer; School of Architecture; University of Waterloo; Waterloo, Ontario; Canada N2L 3G1; phone 519-885-1211 x6647; fax 519-746-0512; e-mail <tboake@cousteau.uwaterloo.ca>. Join the SBSE list server by sending **subscribe sbse** to <majordomo@uidaho.edu>. Visit our home page <<http://www.polaris.net/~sbse/web/>>. ■

## TADOUSSAC RETREAT REPORT [CONTINUED]

There is a general need to develop (or at least identify) a model, concise curriculum—a series of courses whose content could be made available to other Lone Rangers. The discussion that ensued did not describe the concise curriculum as content, but rather as mode of delivery. We saw that energy-related issues are successfully and concisely taught if they're integrated with studio models. Three basic models were identified:

- A. Technology and Design are two distinct, separate, parallel streams. Technology is taught as a series of integrated courses about environment, structures, materials, and nature with no intentional crossover between the technology and design courses. Design-related issues are taught in the technology stream by the technology professors. This method was identified as least preferred.
- B. Technology and Design are two parallel streams. Design is taught as a separate sequence by others. Technology begins with a single foundation course that breaks into separate streams of environmental control systems, structures, and materials. During the final year a single, capstone course ties all the technology streams and design studio together. This method was identified as better than model "A".
- C. Technology and Design are two parallel streams with constant information and project/seminar crossovers throughout the curriculum. The technology faculty add seminars to enrich the design studio or teach both streams concurrently. The technology courses integrate the issues of structures, environment, and materials. This method was agreed to be the best.

Although Terri intended to have the group identify specific must-teach topics and gather a series of killer projects, lectures, and assignments, it didn't happen. The discussion led to considering design teaching as the topic for next year's retreat. Perhaps the secrets of the ultimate projects will be revealed? Heigh-ho Silver, away!

### MEASURING TECHNOLOGY/DESIGN INTEGRATION—ANGEVINE

We commonly believe and often state (well, Ed Allen does) that if technology were taught in the studio, it would be retained and applied by students. Eric presented a doctoral dissertation research proposal for investigating the correlation between technology instruction and the design studio. SBSEers immediately proposed a wide variety of new variables that influence retention of useful information that should be studied.

Five breakout groups were formed to look at epistemology, content, teaching method, and the structural relationship between technology courses and design studios. Each group was asked to consider how knowledge retention could be measured and how their assigned topic might affect this retention. It became clear that the topics were interrelated when group leaders reported back on what should be taught, how it should be taught, and the relationships among these courses. Perhaps the best approach to technology education was proposed by Paul Clark who said, "Prepare students with a profound appreciation of the natural environment, an appreciation of technology, and an appreciation of humanity... all else will follow naturally." You will be hearing more about Eric's research in the coming months.

### MEASURING THE PATH TOWARDS TEACHING EXCELLENCE—REYNOLDS

We had a free-wheeling discussion that continued well into the evening. Some familiar themes re-emerged—what it's like to be the only ECS-type on the faculty; how to find good teachers among the engineers likely to be given adjunct ECS appointments; how SBSE might be more effective in promotion and tenure cases.

We shared horror stories about teaching. Paul: first lecture, pants too big and falling down in front of the class [*Paul or his pants?—ed.'s ed.*]. John: more slides in one lecture than he uses now throughout the year. Terri: fire design lecture, paper in opaque projector catches fire. But we didn't get down to the details of teaching, organizing, and delivering lectures or particularly effective exercises. Instead we asked, "Should we invite construction and structures teachers to join us?" Consensus seemed to favor staying ECS-focused while encouraging the others to form SBSE-like groups. And "Should we continue to consider ASES, rather than ACSA, as the site of the SBSE Annual Meeting?" The prevailing view was that we are primarily distinguished by the environmental issues that define ECS. Though acoustics gets short-changed, lighting, heating, cooling, and water/waste are united effectively. And maybe someday we'll talk about preparing, delivering, and evaluating a lecture??

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## TADOUSSAC RETREAT REPORT [CONTINUED]

### SBSE IN CHINA—SUN

China is currently experiencing difficulties incorporating appropriate technological and environmental responses in building design. Not only is the architectural profession in need of specific and relevant information, but educational institutions need to systematically develop their technology curricula to support the marketplace. Learning from antiquated teaching materials and methods, the new generation of practitioners are ill-prepared to properly consider environment and technology in architectural design.

We agreed that SBSE, with its well developed curriculum and teaching methodologies, could begin to extend its influence on the global level. We proposed a series of workshops in China around June 3–10, 2000, prior to the ACSA international meeting in Hong Kong. Frank will work with the Chinese to define and expedite the agenda.

### SBSE AT TALIESIN—AFIFI, WASLEY

We decided that next year's SBSE retreat at Taliesin will focus on design. Emad Afifi (content) and Jim Wasley (site) will coordinate the retreat.

In general, architectural design is the process or creative activity that leads to the making of spaces for human activity. These can be indoor or outdoor, controlled or uncontrolled environments. The scale of the project may vary from a small, non-functional folly to a complex of buildings and urban spaces. Some use the word to describe the act, to design; some use it to describe the product, a design; while others see design as both a process and a product.

Next summer's retreat will include a full-day design charette and an exhibition—plan to provide samples of student work. E-mail your thoughts and ideas for other retreat sessions to all <sbse@uidaho.edu>. [Emad's plea for input has already enlivened the SBSE listserver. See "Tales of Taliesin," p. 5, and "The Great Design Retreat Debate," p. 7.—ed.] Emad will e-mail a draft agenda early in the fall. █

—the presenters



In the Hotel Tadoussac lobby John, Emad, and Paul ponder Malcolm Wells' criteria for sustainability.

photo: Bruce Haglund

## MANIFESTO

Inspired by fireworks over Québec City and Maudite *for was it Jim's hip, tight, black mock turleneck?—ed.* a splinter group of revolutionaries (Clark, DeKay, Haglund, Mallory, and Wasley) put forth these foundations of Radical Holism on July 1, 1999.

1. Everything must be considered simultaneously.
2. The ideal curriculum consists of one course, team-taught by the entire faculty.

—Bruce Haglund

## HAY GRANT FOR SBSEERS

Harold Hay, in conjunction with the Renewable Energy Institute (REI) at Cal Poly San Luis Obispo, is offering a grant program to advance applied research in passive solar design and water conservation in the built environment. The program is funded at the \$100,000 level for the first year with the intention of awarding four grants of about \$25,000. More information is available on-line at the Hay Fund web page <<http://suntzu/hay/index.html>>. Questions may also be forwarded to the REI program co-director, Margot McDonald <[mmcdonal@calpoly.edu](mailto:mmcdonal@calpoly.edu)>. The deadline for proposals is **December 10, 1999.** █

—Margot McDonald



photo: Bruce Haglund

As seen from the leeward and affirmed by graffiti, Hotel Tadoussac spawned many smiley-faced SBSE sleepers during the annual retreat.

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**SBSE PEOPLE**


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✉ **Mohamed Boubekri** at Illinois and **Jane Britt Greenwood** at Mississippi State have been awarded tenure and promoted to Associate Professor.

🏠 Gaining front page notoriety in *ACSA News*, **G. Z. Brown** guided students Michael Price (first place) and Andrea Schulz (honorable mention) to glory in the ACSA/Wood Products design competition. [*Check out Michael's sexy sedges!-ed.*]

⊕ For those who witnessed **Claude Demers's** impressive cantilever belly, the new father, **André Potvin**, is proud and pleased to announce that Élisabeth Demers-Potvin was born on August 2. [*I can't believe the cantilever extended a full month beyond the retreat!-ed.*] She was accordingly impressive (8 pounds–11 ounces and stretched to 21 inches).

✦ At the end of June **Barbara Erwine** left the Seattle Lighting Design Lab to start her own daylighting consulting practice. Last fall she worked with **Lisa Heschong** on her research project, correlating daylight and productivity for schools and retail spaces.

✦ Recent University of Oregon graduate, **Alfredo Fernandez Gonzalez**, takes on a one-year lecturer position to teach **Margot McDonald** and **Don Woolard's** courses at Cal Poly SLO.

✦ **Walter Grondzik** has accepted a one-year visiting position at Oregon to teach ECS and (arghh) design. [*To be Hobbes to Alison Kwok's Calvin.-ed.*]

⊕ After the SBSE retreat **George Christian Luebke** entered our world. He weighed in at 8 pounds–10 ounces and 21 inches. Chris, Laurel, and the baby are at home and doing very well. George figured out his prime function [*calculating slenderness ratios?-ed.*] within hours.

🌐 **Margot McDonald** is on sabbatical from Cal Poly SLO to complete coursework for a Ph.D. in geography at UC Santa Barbara. Why geography? To work with an architect and climatologist on the UCSB faculty as well as senior SBSE faculty advisors, to research the effects of buildings on microclimate.

✦ **Mike Utzinger** has been named Passive Conference Technical Chair for ASES *Solar2000*. [*Similar to his cushy job at UWM?-ed.*]

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**RESEARCH NOTES**


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**DAYLIGHTING AND PRODUCTIVITY**


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The August '99 issue of *Architecture* contains a story about recent studies by the Heschong–Mahone Group on the effect of daylighting in schools and retail spaces. These studies, reviewed by Judith Heerwagen and published by LBL, spread the good news that daylighting proves to be a significant factor in improving students' performance and in increasing retail sales. Visit our web site <<http://www.h-m-g.com>> under "what's new" for executive summaries of the two reports (retail and schools), a copy of the *Sacramento Bee* article on our work, and much more. The long versions of the reports are available from George Loisos or Bill Burke at the PG&E Energy Center in San Francisco.

–L isa H eschong

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**COMFORT ZONE THERMOSTAT**


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Along with the Davis Energy Group, LBNL, UC Davis, and George Loisos, UC Berkeley (in the guise of Ed Arens, Fred Bauman, and Susan Ubbelohde) is developing a house design that saves cooling energy by using night ventilation and additional mass instead of an air conditioner. Although the house design includes all the marketing features of a new California developer's "product," the cooling strategy requires some physical, technical, and behavioral changes. For instance, the design calls for owners to define a "comfort zone" (e.g., 65°–78°F) rather than striving for a fixed thermostat "setpoint." We need your help! Our project team, which includes architects, mechanical engineers, and sociologists, has developed a prototype thermostat to control the night ventilation system. Ideally, this device will help convey the concept of ventilation cooling to the user and allow them to set their comfort zone with ease. To test the user interface (albeit in a virtual way), we have set up an interactive web site at <<http://www.davisenergy.com/acc/>> which has a more detailed description of the project, the house, the cooling strategy, as well as a simulation of the thermostat control (with a brief questionnaire). Please visit the web site, and take the house for a test drive. We are evaluating the prototype thermostat and looking for ways to improve it. Your input, ideas, and suggestions would be very helpful. Thanks to all of you who visit the web site. Let us know what you think!

–S usan U bbelohde

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**ARCHITECTURE+ENERGY WEB SITE**


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There are some new additions to the Teaching Architecture + Energy web site <<http://www.arch.wustl.edu/escriculum/index.htm>> hosted by Washington University in St. Louis. In addition to some exercises that anyone is welcome to use for teaching with *Energy Scheming*, we have completed a fully worked example problem that is a step-by-step tutorial on how to analyze and redesign a building using *Energy Scheming*. On the climate resources front, you can now get data on a web page in the format *Energy Scheming* needs for several sites in Alaska and for Cincinnati, Tulsa, Chicago, Milwaukee, and Kansas City—cities closest to the homes of attendees at Lance Lavine's recent "Scheming in Studio" workshop held in Minneapolis. We strive to please, so if you are considering using *Energy Scheming* and need climate data more local or specific than the 30-odd on the web site, let me know <[dekay@arch.wustl.edu](mailto:dekay@arch.wustl.edu)>. Look for PDF versions of exercises and the example problem to be available soon.

–M ark D eK ay

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**THE RPI LIGHTING RESEARCH CENTER**


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Through the auspices of the Lighting Transformations Program, in cooperation with the Energystar Program of the U.S. Environmental Protection Agency, the "Builders Guide to Home Lighting" is now online <[www.lrc.rpi.edu/Ltgtrans/HomeLtg/index.htm](http://www.lrc.rpi.edu/Ltgtrans/HomeLtg/index.htm)>. Based on Russ Leslie's 1995 reference, the guide is a practical builders' and electrical contractors' resource for selection and installation of energy-efficient home lighting. ■

–K ate D aly

## TALES OF TALIESIN

When she received the AIA Honorary Fellowship (c. 1978), Mrs. Aalto related the following story to me—no kidding, at least not in the relating of it.

Frank Lloyd Wright invited both Alvar Aalto and Marcel Breuer to Taliesen West. On a sunny winter day FLW in a limo picked up AA at the airport. FLW said to his newly arrived guest as they peered out the limousine windows, “Mr. Aalto, for every building that we see influenced by your style, you will get a point and for every one influenced by mine, I will get a point.” While FLW counted over 100 self-congratulatory points, citing every carport, raked eave, and lancing roof in the Phoenix to Scottsdale landscape, AA remained deep in Finnish silence. The evening proceeded similarly, relieved by wine liberally offered and accepted. Mr. Aalto and Mr. Breuer were shown to their guest rooms, sparsely furnished but set up for effect with FLW-designed beds, chairs, and a table with various magazines featuring FLW designs. And, of course, a fireplace. The next day at breakfast, when Mrs. FLW asked how her guests found their accommodations, Breuer answered politely, “Fine, and aren’t your Arizona winter nights a bit brisk indeed.” Mr. Aalto followed, “I was perfectly comfortable. I was able to start a very nice fire with the paper you provided.”

—Don Watson

I think you all might wake FLW from the dead. I look forward to going to Taliesin.

—Harvey Bryan

FLW sent me e-mail and said he will attend the 2000 retreat!! He also said that he has figured out the formula for the perfect balance between the art and science of architecture which he tried unsuccessfully to publish back in 1928, so he kept it to himself. But now that there are so many open-minded SBSEers who will discuss every facet of “design and performance” at the retreat, he has decided to go for it. He also would not mind if Le Corbusier, Venturi, and even Mies Van Der Rohe attended. After all, it’s the end of an old millenium. We need to figure out how to teach the next millenium’s master architects how to fulfill the three Vitruvian prongs of architectural design—firmness, commodity, and delight. ■

—Emad Afifi

## ECS JOB MART

### BALL STATE UNIVERSITY, CERES

Here’s the web site for our new BSU CERES staff position: <<http://www.bsu.edu/hrs/facdes6.htm>>. This position is a 50% teaching/50% research, tenure-track position funded with hard money.

### SAVANNAH COLLEGE OF ART AND DESIGN

The Savannah College of Art and Design is seeking qualified candidates for full-time and visiting faculty positions in structures, environmental controls, construction technology, computer applications, or architectural theory and criticism. All faculty must be able to effectively participate in design studio reviews and serve on senior project and graduate thesis committees. Qualifications must include a professional degree in architecture (or structural engineering for the structures position) and a post-professional degree in a field of specialization. Additional teaching, research, and professional experience are desirable but not required. To apply, please send letter of interest, résumé or CV, and samples of your professional, creative, or academic coursework to: Architecture Department; Faculty Search; Savannah College of Art and Design; PO Box 3146; Savannah, GA 31402.

### UNIVERSITY OF OREGON

Stay tuned for a job announcement for a tenure-track position at the University of Oregon starting Fall 2000. Teaching responsibilities will be environmental control systems in lecture and seminar formats and architectural design studios. Candidates will be expected to have an advanced degree in architecture and experience in teaching, research, or practice. Until the posting, inquiries can be made to: Nancy McNaught; Department of Architecture, 1206; University of Oregon; Eugene, OR 97403-1206; phone 541-346-1435; fax 541-346-3626. ■

## AVAILABLE

### NEWEST SOLAR 5.6

The latest version of *Solar 5.6* is ready to download from our web site <<http://www.aud.ucla.edu/energy-design-tools>>. It has a few new features, but the one you will like best is a click-and-run icon on the Windows desktop. We just signed a one-year contract to develop a new, even friendlier, stand-alone version in Java. It automatically uses and updates your design data files from previous versions. If anyone has any *Solar 5.6* problems or questions, please e-mail me <[milne@ucla.edu](mailto:milne@ucla.edu)>.

—Murray Milne

### SHAPING STRUCTURES WEB SITE

On behalf of Waclaw Zalewski and myself, I’m pleased to announce the publication of a sparkling, new *Shaping Structures: Statics* web site, <<http://www.shapingstructures.com>>. It’s many new features include 23 examples of student design work and a demonstration of a tutorial unit from Joseph Iano’s CD-ROM. You’ll also find exciting links to other web sites relating to long-span structures and their designers, as well as comments from both teachers and students at architecture schools on the book and the experience of using it.

—Edward Allen

### SUSTAINABLE ARCHITECTURE

Check out the FREE publications in our online Sustainable Architecture collection such as “Fundamentals and Methods of Sustainable Design” (173K, 28 pp. PDF or printed copy for \$3.50). Intended for college architecture courses, this paper examines the environmental impact of building design and construction. Principles of sustainable architecture are discussed as a means of reducing this impact. Analysis of a building’s phases of construction are used to explore the concepts of Economy of Resources, Life Cycle Design, and Humane Design. To view or print your own free copies of any of our publications and more, point your Web browser to <<http://www.umich.edu/~nppcpub/resources/compendia/architecture.html>>. ■

—Nancy Osborn

## CONFERENCE REVIEW

### TECHNOLOGIE EN TRANSITION/ ACSA TECHNOLOGY CONFERENCE

Fortunately English was spoken at the joint meeting of the ACSA Technology Conference, CIB, ARCC, and SBSE which convened in Montréal, Canada, June 25–27, 1999. There was a strong presence of SBSE members at this event, the “first separatist meeting” of the ACSA Technology Conference since the early 1990s.

Each day of the conference was organized around a different theme: Invisible Technology in Design, Information Technology in Design, and Architectural Design and the Building Industry. The sessions were formatted as paper presentations followed by panel discussion and recapitulation of the previous session. There were identifiable ARCC workshops and paper sessions parallel to the general ACSA sessions. SBSE and CIB elected to merge with the existing structure with members presenting throughout the conference, including plenary sessions.

SBSE sponsored Ray Cole, University of British Columbia, who gave an outstanding plenary talk referencing his past research in embodied energy of materials and some of the harsh post-occupancy realities of sustainable design. For example, the C. K. Choi building at UBC showcases Clivus Multrum composting toilets. Building occupants have been known to use more conventional toilet facilities in other buildings due to their unfamiliarity with the Clivus. Signs outside the restrooms—“Children must be accompanied by an adult”—raise suspicions! Moreover, physical plant personnel do not have compost harvesting in their current job description. This reality check of theory versus practice was coupled with optimism. Ray spoke of inspiration from Stewart Brand’s recent writings in *Clock for the Long Now*, which identifies time as the key issue for environmental protection and preservation. Recommended reading!

Alas the future relationship between SBSE and the ACSA Technology Conference is yet to be determined. Anyone interested in carrying the torch of proactive cooperation should step forward now. Call me! █

–Margot McDonald

## GREAT DESIGN RETREAT DEBATE BEGINS

*[Once Emad Afifi used the listserver to reveal his tentative plans for next year’s SBSE Retreat at Taliesin, an outpouring of passion followed. I’ve attempted to document the give-and-take for you all. –ed.]*

I suggest that as a group of building science educators, we would be negligent if we considered design either as process or product without a discussion of the general lack of design research opportunities in our schools.

Architectural education generally lacks a systematic way to advance the body of knowledge. There are many wonderful examples of laboratory efforts in such diverse areas as environmental controls, structures, and materials development. But there is a general lack of appreciation of the role of the design process itself as a research methodology, as a systematic way for studio activity to advance our understanding of problems.

Environmental design research shares paradigms with both design and science. This bridging characteristic was addressed in a 1981 National Endowment for the Arts report prepared by Marguerite N. Villecco and Michael Brill who made the following important point:

*Similar to design, environmental design research deals with sets of problems that lie in the realm of direct experience; it has a sensory base and an intimate connection to the quality of life. Yet it can be distinguished from design and this distinction is critical to those proposing, doing, using, or assessing research. The distinctions can also lead to their eventual unity, where the design process encompasses the learning and evaluative components of research over time.*

It is their final point that I think needs to be addressed: How do we encourage the design process to encompass the learning and evaluative components of research? Is that a fair question for discussion at one of the retreat sessions?

–Ralph Knowles

Hear! Hear! This serious proposition should be our basis to continue.

–Jeff Cook

If we are to address the problem that “Architectural education generally lacks a systematic way to advance the body of knowledge,” then there needs to be a systematic way to posit and test hypotheses about building performance. To test building performance, there has to be a consensus on how to evaluate building performance. What makes a building safer, healthier, more comfortable, more durable, more flexible, lowers its impact, increases its value, enhances social contact, and inspires creativity?

Architects have been relying on myth, fad, memories, and intuition. It’s time we started using verifiable measurements of the success of design. I suggest looking to other disciplines for evaluation methodologies.

–Lisa Heschong

One of our greatest failings is that we work very hard to define design in our own terms. We rarely take the time to imagine that our design colleagues are not nincompoops who waste valuable time, but are actually teaching students things of value (e.g., how to make a building beautiful, how to give order).

It behooves us to pay some attention to those issues rather than always casting design as something defined through aspects we are already comfortable with (such as research and performance). We are already much better at listing the performance failures of a building than finding the words and ideas to express how a building is good in **nontechnical** terms. Without this necessary skill we will never be able to speak with our students and colleagues about **architecture** rather than **performance**.

–Susan Ubbelohde

Marietta’s follow-up question, “How do we do research and make sure design stays connected in it, intrinsic to it?” is of course critical and has occupied me for over 40 years. If any of you have examples, on the web or in books, we might start with them. From my home page <<http://www-rcf.usc.edu/~rknowles>> I suggest two papers:

**The Solar Envelope:** Twenty years of design research in the USC Solar Studio show that, if generally applied as an instrument of zoning, the solar envelope will not only allow growth but will open new aesthetic possibilities for architecture and urban design.

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## GREAT DESIGN RETREAT DEBATE [CONTINUED]

**On Being the Right Size:** The right size, and notably the right size of a building, is relative. It is dependent on the costs of construction and maintenance. It is also proportional to the more illusory standards of livability and choice. This paper, reporting on a 10-year urban housing study for Los Angeles, concludes that for energy conservation and life quality, buildings can be neither too great nor too small.

—Ralph K. Nowles

I am much more interested in **process** than in individual products (assuming that good process generally leads to good product). Therefore, design assignments and all that is required to support such assignments would be of great interest—supported by example slides of student responses.

The idea of a charette is intriguing. Perhaps a group design session for a really difficult program—a totally off-grid, nonresidential building or the state-of-the-art in “green” design? Perhaps a few local professionals could be invited to join us.

If possible, let’s try—as a group—to remember to actively involve potential teachers (future SBSEers). Specifically grad students who may be inclined to teaching and/or adjunct faculty who are on the fringes of ECS enlightenment. Discussion of some use of SBSE funds to do so may be warranted.

—Walter G. Rondzik

It’s quite wonderful that the idea of a Design Retreat has gathered tremendous interest!! Some are drawn by the performance aspects of “design” and others by its esthetic aspects. Still others are lured by the possibility of the common territory cross-fertilized by both realms—objectivity and subjectivity, quantity and quality.

Certainly the matter of design has something to do with the human desire to organize a new vision of a world perceived as unsatisfactory or incomplete. While design remains central to architecture’s proper utopian goal, it is useful to recognize that designers can be unsatisfied with either pragmatic or reflective concerns. Sometimes these concerns are separate or at least can be understood separately and consequently pursued through differing means (this approach happens far too often). It is quite likely that most concerns relate jointly to practical and esthetic matters. Relative to this highly interesting situation of a mutually entangled realm, both issues of performance and non-performance are relevant and thus must figure prominently in our retreat activities and discussions. For example, a debate or charette to explore thermal delight in conjunction with energy use would captivate me. Similarly, the issue of sustainability becomes more interesting when challenged by human rituals held dear, yet detrimental to the natural environment.

While Susan is correct in noting this overlapping realm tends to provoke fear of the unknown, facing these fears is one way to have an enlightened SBSE Retreat. Addressing this difficult discourse, in turn, does tend to prepare SBSEers to speak more comfortably with their counterparts outside the building sciences.

—Paul Clark

*[I’ve been enjoying the debate on the design retreat. I hope this discussion leads to enthusiastic retreat participation by all contributors and voyeurs! It would be great to have Ralph and Jeff and Lisa and Marietta and Susan and Walter and Paul raging in Taliesin!—ed.]* ■

## EVENTS

### MAINSTREAMING GREEN

*Mainstreaming Green: Sustainable Design for Buildings and Communities* will be held **October 14–17, 1999**, in Chattanooga, TN, organized by AIA COTE and the U.S. Green Building Council. For info contact Muscoe Martin <mbm@maxmanpartners.com>.

### HOT AND HUMID

The 12th Symposium on Improving Building Systems in Hot and Humid Climates, **May 15–17, 2000**, will be held in San Antonio, TX. Abstracts are due September 20. For more information call 409–847–8950 or e-mail <drosen@esl.tamu.edu>.

### PLEA 2000

The 17th International Conference on Passive and Low Energy Architecture, **July 2–5, 2000**, will be held in Cambridge, England. Check out the new web page for abstract/paper details <<http://www.arct.cam.ac.uk/plea2000/index.html>>.

### 2000 ACEEE SUMMER STUDY

*Efficiency and Sustainability*, **August 20–25, 2000**, will be held in Pacific Grove, CA. Abstracts are due October 15. Check out the web page for details <<http://aceee.org>>.

### SUSTAINABLE BUILDING 2000

A joint conference of Buildings and the Environment and the Green Building Challenge, **October 22–25, 2000**, will be held in Maastricht, The Netherlands. Abstracts are due by October 1999. More info <<http://www.novem.nl/sb2000>>. ■

## SPECIAL SESSION

A special curriculum development session for schools of architecture will be held at the **30 September–2 October** conference: *Greening of the Campus III: Theory and Reality*. “Design Education and Sustainability: A Prototype for Developing Green Curricula” with presenters Casey Coates Danson, Global Possibilities, and Jean Gardner, the Earth Group, will review the results of Global Possibilities’ Symposia for a Solar Future and interactively demonstrate the methodology used to organize their curriculum development tools—national and regional conferences, focus questions for discussion, and protocols for collaborative group discussion. For more information, contact Becky Amato at 765–285–2385, fax 765–285–2384, <bamato@bsu.edu> or <<http://www.bsu.edu/greening>>. ■



photo: Leonard Bachman?

Chaplinesque Leonard Bachman centers himself in the heart of the Biosphere in Montréal.

## TROUBLE OVER MESA VERDE

*[Susan Ubbelohde keeps warning me not to be seduced by the romance of the climate-responsive vernacular. Consequently, this e-mail conversation with Murray Milne and Ralph Knowles put me in a suspended state of déjà vu. —ed.]*


**Murray:** Ralph, did you see the plan of Mesa Verde in the Fall '98 *SBSE News* showing that it faced **west**? I thought it faced southeast. Do you know any trusted books that confirm this?

**Ralph:** There are a good many cave dwellings at Mesa Verde. Some face east, some face south, and some face west. Only the south-facing ones like Longhouse are comfortable year-round. That is the one I show in *Energy and Form* and elsewhere.

**Bruce:** Yes, Ralph is specific in pointing out that Longhouse is well thought out and works effectively. However, most of the photos of the “solar” vernacular at Mesa Verde that I’ve seen in other places have been of the photogenic Cliff Palace, which does face West. I’d foolishly assumed that since Longhouse was so good, all the dwellings were well-sited. Wrong! So my question is, “Was climatic response a programmatic concern, or was Longhouse just a lucky coincidence?”

**Murray:** Bruce, you are right. I say it is luck, they certainly did not make the cave. But an interesting question is whether there was a measurable benefit (better health, reproductive success, wealth) from living in the more comfortable cave? Or was it just a luxury? We know people will work harder, pay more, and fight longer for luxuries (cf. huge air-conditioned houses), but did they then?

**Ralph:** I don’t know whether they fought over the best sites. What I do know is that the caves facing west were too hot in summer, while those facing east were too cold in winter. Since most of the big canyons run out to the south, there are mostly east-, west-, and south-facing caves and hardly any north-facing ones. The Anasazi all migrated to the top of the mesa where they planted and harvested and may have stayed for periods of time, but I don’t know whether it was related to overheating in the cave. ■

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