Holistic Options for Planet Earth Sustainability (HOPES) began with several students from the University of Oregon's School of Architecture and Allied Arts who were searching for something more from their education. These students organized a conference to bring together educators, students, professionals, activists, and community members to discuss ecological design arts. Since then, the gathering has become an annual community event which rejuvenates our sense of purpose and connection in our common struggle towards a holistic lifestyle. As a part of this past year's Eco-Design Arts Conference in April, HOPES and the SIC collaborated in the organization of a design charrette. The charrette's goal was to develop ideas for the proposed Environmental Resource Center on the University of Oregon campus.

**Charrette**

Charrette is a French word for cart. In architecture firms of days past, the charrette would be pushed around the office collecting drawings to be taken to the principals. Occasionally, draftspersons would be known to jump into the charrette to finish work on incomplete drawings. Modern charrettes, while not held in carts, continue to involve intense design and drawing. Charrettes typically last a few days and have a set completion time.

**ERC Charrette**

The ERC charrette was seen as an opportunity to expand interest and develop new visions for the center. It was also a great way to investigate several assumptions about sites, program elements and appropriate building systems. There were 27 participants with varying backgrounds who took part in this year's Charrette including a group of children from the Architects-in-the-Schools Program who joined in a mini "kids charrette." The final presentation given by the participants was attended by well over one hundred people who contributed their input and ideas.

The participants in the ERC Charrette worked in collaborative groups of three and four. Each group was given an information packet to guide them that included:
1. A site map and site issues
2. ERC information: mission statement, goals, objectives, and building program
3. Precedent studies of other environmental learning centers, and examples of alternative design and building systems.

With this information in hand, the groups were then given approximately 24 hours to envision a design for the Environmental Resource Center. Throughout this process facilitators from HOPES and the SIC visited with each group to answer questions and aid in the design process. James Wines of SITE (Sculpture in the Environment) was the guest facilitator who met with individual charrette teams to assist with group dynamics and in establishing a vision for the ERC. During the midday lunch break, James addressed the participants with an informal presentation on his own ideas about the ERC. His experience with team designing and issues of continued on page 3
**The Solar Page**

**What is the Solar Information Center?**

It is a student-run organization sponsored by the ASUO (Associated Students of the University of Oregon) and EWEB (Eugene Water and Electric Board). Its purpose is to serve as a research, education, and information center on solar and alternative energies, and their applications in architecture and technology.

One of its vital functions is to sponsor a lecture series on local, regional, and global energy issues promoting a higher awareness toward conservation and renewable energy. The center also provides an in-house information source of books, periodicals, abstracts, proceedings, topic-files, product-files, and a World Wide Web site.

**Environmenta**

**Environmental Resource Center**

*continued from page 1*

sustainability was an invaluable resource for the participants and organizers.

The eight teams worked very quickly but were able to produce clear visions for the ERC.

Some of the issues dealt with were of waste recycling, adaptive reuse of existing buildings, holistic systems, and a response to each site's specific context and qualities. The teams produced many wonderful images for the ERC, some of which are included in this newsletter on pages 4 and 5. For the organizers, participants and guests, the ERC Charrette was an invaluable experience.

More Information

A Packet with detailed information about the ERC will be available, for more information contact Jason Wilkinson at the SIC.

**Current Activities: Studio Fall 1998**

The Solar Information Center is coordinating a fall architecture studio course with two professors to develop further ideas about the ERC. Ronald Kellett and Robert Peña will be combining their architecture studios bringing together graduate and undergraduate students in collaboration on this project. Students will investigate and assess the needs of an Environmental Resource Center on the University of Oregon campus developing a vision and highly detailed design concepts for the ERC.

Throughout this process students will be coordinating with several student organizations, representatives from the U of O Planning Office, members of the Eugene community, as well as U of O faculty from various other departments. The intention of this studio is to explore the possibilities while keeping our sights on the practical side of realizing an ERC building.

**History**

Two and a half years ago, two students, Matthew Sweet and Jason McLean of the Solar Information Center, were struggling to find ways to increase the use of their renewable energy library. Unable to include their resources in the University’s library catalog, these students soon realized that their under-utilized library resources were a symptom of a greater problem: the lack of communication between environmental campus groups. With this in mind, these students began the process of developing an environmental center at the University of Oregon.

**ERC Mission Statement**

The Environmental Resource Center is a student-based network of environmental groups at the University of Oregon. Its mission is to promote a greater awareness of actions and beliefs that are beneficial to the health of the ecosystem.

**ERC Goals**

The Environmental Resource Center’s goals are to facilitate the dissemination of information, collaboration between individuals and groups, and dialogue between local stakeholders about environmental and social issues. The ERC is focused on educational opportunities and physical demonstrations of ecologically sustainable design and policy. Through these activities, the Environmental Resource Center intends to provide for our present needs and for those of future generations.

**Objectives**

- In its construction and operation the ERC should be respectful of materials and energy use.
- The ERC should strive to make sustainable technologies available and affordable to all community members.
- The ERC will go beyond Federal and State requirements for universal access. It should be an example of universal accessibility for individuals and social groups that are discriminated against. This accessibility applies to such issues as race, class, gender, and the use of wheel chairs and other mobility devices.
- The ERC should be highly visible and encourage the coming together of people.
- The ERC should be a community networking hub that facilitates many levels of communication among groups and individuals.

**ERC Project**

Fall 1998

**ERC Web Site**

Fall 1998

**Lecture Series**

Fall 1998

**In-House Library**

Fall 1998

**Student Work**

Fall 1998

**ERC Project**

Fall 1998

**Web Site**

Fall 1998

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Congratulations to Jason Wilkinson of the Solar Information Center and his team-mates, Prashant Gaba, Sophie Robitaille and Todd Matthes. Their design received and Award of Excellence from the International Conference on Universal Design. Their project, excerpts of which were featured in our Winter 1998 Solar Incidents, addresses universal design at multiple scales from the neighborhood block to the household living unit. They developed a series of design and program interventions to transform an existing neighborhood making it as inclusive as possible for all residents, regardless of ability, gender, income, race, culture, sexual orientation or life circumstance. The design applies a wide range of academic theory and literature to the creation of sustainable community, gathering places and lifespan housing.

The Solar Information Center welcomes submissions for articles and our Solar Sustainable Design Showcase.

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"Every one has a vivid imagination. Nothing is perfect."

A quote from children participants in the ERC Charrette
**ERC Charrette Proposals**

**Group 1**
Thia Bankey - Architect  
Don Titus - Architecture Student, UO  
Patrick Clark - Architecture Student, UO

- Large entry atrium providing a connection between all levels as well as creating a cooling chimney that utilizes the principles of stack ventilation  
- Program contained within one building creating the need for multiple floors  
- Building oriented along East-West axis to gain maximum solar exposure  
- Recycling systems integrated in building design

**Group 2**
Jim Bruvold - Engineer  
Marcus Koch - Architecture Student, UO  
Jessica Ellington - Architecture Student, UO

- Building uses existing campus typology while integrating alternative energy systems and construction materials  
- Attached sun space houses displaying a "Living Machine"  
- Courtyard helps to passively cool the building while providing a pleasant outdoor "room"  
- Design uses sculptural flow forms to enhance the visitors understanding of the rain water collection system  
- Mini-hydro is generated from the flow of the Millrace

**Group 3**
Greg Acker - Architect  
Nick Bard - Landscape Architecture Student, UO  
Varuni Tiruchelum - Environmental Studies, Oberlin College  
MyPhoung Chung - Architecture Student, UO

- New addition allows for the adaptive reuse of an existing building  
- Sun space along south side helps to heat and cool the existing building  
- A building theme celebrating water and its many uses  
- Terraces help create an indoor-outdoor connection  
- Design invites a dialog between rectilinear and curvilinear forms  
- Roof gardens not only generate food but also provide a layer of thermal insulation for the building  
- Building activities are centered around a central meeting space

**Group 4**
Rayna Huber - Architecture Student, Cornell University  
Jessica Rubin - Architecture Student, UO  
Todd Matthes - Architecture Student, UO  
Nik Bertulis - Ecological Studies, Colorado College

- Territory to Pathway from Sod to Rock  
- The building is integrated with the landscape through sod roofs  
- Waste water is used for irrigation of demonstration garden  
- Electric car recharging station provided  
- Main building houses library, resources, classrooms, and student group offices  
- The apartment design provides an example of sustainable living

**Group 5**
Bill Nachman - Architecture Student, UO  
Solaim Abrahams - Architecture Student, UO  
Penelope Crash - Architecture Student, Cornell University  
Ben Gates - Architecture Student, UO

- Design uses sculptural flow forms to enhance the visitors understanding of the rain water collection system  
- A centralized courtyard provides a community gathering place  
- Design calls for underground spaces to reduce the buildings footprint  
- Building uses stack ventilation for passive cooling  
- Rain water is collected in bamboo stalks that are part of an external shading system  
- Electric car recharging station provided

**Group 6**
Jon Erikson - Architecture Student, UO  
Nick Rajkovich - Architecture Student, Cornell University  
Karen M. Chan - Architecture Student, UO

- The building is integrated with the landscape through sod roofs  
- Waste water is used for irrigation of demonstration garden  
- Main building houses library, resources, classrooms, and student group offices  
- This design uses an amoeba for the form of the building  
- Roof gardens not only generate food but also provide a layer of thermal insulation for the building  
- Building activities are centered around a central meeting space

**Group 7**
Aabijit Kapade - Architecture Student, Cornell University  
Tiller Decato - Architecture Student, UO  
Chris Chalmers - Architecture Student, UO

- Addition of water tower to create landmark and store water  
- Design calls for underground spaces to reduce the buildings footprint  
- Building uses stack ventilation for passive cooling  
- Rain water is collected in bamboo stalks that are part of an external shading system  
- A centralized courtyard provides a community gathering place
All buildings simply by the nature of their girth consume a tremendous amount of resources. On a daily basis they can consume as much energy as a small town. Because of its scale, any resource conservation in the construction or operation of a tall building will result in over 100 times the savings as similar design considerations in a single family house.

To achieve energy efficiency the building:

- takes advantage of solar orientation (a slender footprint elongated East-West for maximum southern exposure)
- moves cores to the East and West facade to insulate against direct afternoon and morning sun which would overheat the building
- uses natural daylight to illuminate the building, minimizing heat gain and energy use from overhead lights
- incorporates sun-shading devices on the south facade to minimize solar heat gains.
- utilizes passive cooling mechanisms to reduce the cooling load on the traditional HVAC system
- uses photovoltaic panels, taking advantage of the building's exposure to the sun

Buildings should reawaken the user's fundamental connection to nature. What is the quality of the outside light? How long is the day? From what direction does the wind come? When the user is allowed to interact with nature a sense of responsibility for the environment is fostered.

To connect its users with nature the building:

- maximizes natural daylighting allowing a view of a world larger than the immediate office floor
- employs operable windows, allowing users to fine tune their immediate climatic needs while maintaining a connection with the changing outdoor environment
- creates unique spaces in the building that allow one to discover the fundamental differences between North and South light
- provides places with different levels of enclosure and openness to enhance the user's awareness of an ever-changing environment
- creates an environment inhabitable not just by humans but also by flora and fauna (i.e. places for plants and birds)
- makes use of the abundant rainwater accumulated on site to supplement interior fountains

Designers should attempt to learn from nature. A redwood tree faces similar issues that the tower faces. How to support the outer reaches of the branches? How to keep from overturning? How to maximize light both at the branches and at the forest floor? All of these issues have direct parallels in the tower.

To respond to nature's precedent the building:

- uses cantilevered floor slabs
- creates places of inhabitation within that recognizes to tower's ability to create more complex and successful vertical environments
- makes use of patterns and systems (i.e. sun shading) at different scales as nature does in fractal geometry exploring the possibilities that form might give to the continuity of the scheme.
- gives special attention to the ground condition and recognizes its different needs (scale, openings, program) from those of the tower
- recognizes the tower as part of dense grouping of towers that must work together to create a more inhabitable city ecology

The Solar and Sustainable Design Showcase is a quarterly event that encourages and recognizes the pursuit of sustainability in the University of Oregon's School of Architecture and Allied Arts. These and previous projects will be posted on our website. Submissions are encouraged for Winter Design Showcase.
Sustainability, in all its simplicity in meaning and practice, is presently lost in the dark and gloomy shadows of industrialization. The machine that has claimed its way across our mother earth and stripped her of her life support system. Work here has been for help rings looking across the plains, deserts, mountains, and forests of her skin, as we humans have begun to listen and take action. The reality is that only a complete overhaul and change in human lifeways can halt and reverse the current trends of environmental degradation and decline. As we actively seek plans for a more livable and nurturing relationship with our natural surroundings, we must examine and question each and every aspect of our own life-styles. Through this process of self-reflection, we may uncover the blueprint for a future of sustainability.

In establishing a plan for complete reform, we must acknowledge and highlight the major social structures that allow environmental destruction to continue. Politically, our government, as well as the corporate welfare system that insures to stay above the poverty line, instituting legislation each and every aspect of our own surroundings, we must examine and question each and every aspect of our own life-styles. Through this process of self-reflection, we may uncover the blueprint for a future of sustainability.

If the life-supporting ecosystems are to survive for future generations, the consumer society will have to drastically curtail its use of the resources. But ultimately, sustaining the environments that sustains humanity will require that we change our values.

- Alan Durning, How Much is Enough

The frog does not drink up the pond in which he lives.  -Proverb

SOLAR INCIDENTS • SOLAR INCIDENTS 

You must teach your children that the ground beneath their feet is the feet of our grandfathers. So that they will respect the land, tell the children that the earth is rich with the lives of our kin. Teach your children what we have taught our children - that the earth is our mother. Whatever befalls the earth befalls the sons of the earth....This we know. The earth does not belong to man; man belongs to the earth. Man is of the earth as the river is connected like the blood which unites one family. All things are connected. - Chief Seattle

A Vision of a Sustainable World
by Billy Nachman

Background picture from Earthships, vol. 2 (1991) showing the construction of an Earthship wall using recycled building materials.
Joanne Tippett
Thursday, November 5, 7:30pm, Lawrence Hall room 177, U of O
Joanne Tippett of Holocene Design Company, is a sustainable designer and educator. She holds a BS in Architectural Design from Lancaster University, U.K., and a Diploma of Permaculture Design and has studied The Natural Step with Karl-Henrik Robert. She has carried out five ecological site planning projects ranging from scale from a school of 4 hectares to a rural development center of 300 acres. She has run permaculture design courses and has lectured and given workshops in ecological design and strategies for sustainability in Southern Africa, the U.K., Germany, Australia and the USA. Examples of her work and her thesis on ecological design and permaculture can be seen at http://www.holocene.net.

Edward Allen, A.I.A
Friday, November 6th, 5pm, Lawrence Hall room 177, U. of O

Edward Allen worked in Berkeley, California, as an associate with Moore Lyndon Turnbull Whitaker. Following Fulbright-sponsored research in Italy, Mr. Allen spent many years as an associate professor of architecture at the Massachusetts Institute of Technology. He has also taught at the University of Washington, Montana State University, the University of California in San Diego, and Yale University. Since 1991 he has been in private practice, completing approximately fifty-five buildings in California and New England.

Sustainable Business Symposium
November 13th-15th, University of Oregon
The sustainable business Symposium will inspire a "bridge building" dialogue among business, environmental, social and civic communities, who will work together toward solutions while ensuring profitable businesses. If your interested in forging a lasting link between your organization's long-term success and its ecological/social stewardship, this is a must attend conference. Panels and workshops will include: Marketplace Sustainability, International Socioeconomic Development, Organic Foods, Full-cost Accounting, Transportation, Energy, Health, Green Architecture, Human Resources, Forestry, Community Planning and Consumer Awareness.

The Solar Information Center is sponsoring the Green Architecture Panel. It will take place Saturday November 14 from 9:30-11:15 AM in Room 100, Willamette Hall. Panelists will include:

Robert Peña, Assistant Professor of Architecture, University of Oregon
Linda Boothe, President, Oregon Dome Inc.
Abigail Magee, Co-owner, Environmental Building Supplies
Tom Faust, Redwood Rubber
Robert Hanson AIA, American Institute of Architects, Portland Committee on the Environment, (invited)

For further details call Mel Bankoff at 541-485-0495 or visit http://www.uoregon.edu/~sbs/tus.html.

Richard Perez
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