Surroundings & Environments

The Grounding of Interior Design in Research & Education

Interior Design Education Council
Annual Conference 2017
Design + Knowledge = IDEC
A Celebration of Design, Research, & Education
Chicago, IL, March 9, 2017

Richard Buchanan, Ph.D.
Editor, Design Issues
Professor of Design, Management & Innovation
Department of Design & Innovation
Weatherhead School of Management
Case Western Reserve University
The Four Orders of Design
<table>
<thead>
<tr>
<th>Signs</th>
<th>1st Order Problems of Communication</th>
<th>2nd Order Problems of Construction</th>
<th>3rd Order Problems of Action</th>
<th>4th Order Problems of Integration</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Word Signs &amp; Images</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Things</td>
<td></td>
<td>Physical Objects</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Actions</td>
<td></td>
<td></td>
<td>Activities Services Processes Experiences</td>
<td></td>
</tr>
<tr>
<td>Thoughts</td>
<td></td>
<td></td>
<td></td>
<td>Environments Organizations Systems</td>
</tr>
</tbody>
</table>
### The Four Orders of Design

<table>
<thead>
<tr>
<th>Problems of Communication</th>
<th>Problems of Construction</th>
<th>Problems of Action</th>
<th>Problems of Integration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Signs</td>
<td>Things</td>
<td>Actions</td>
<td>Thoughts</td>
</tr>
<tr>
<td><strong>1st Order</strong></td>
<td><strong>2nd Order</strong></td>
<td><strong>3rd Order</strong></td>
<td><strong>4th Order</strong></td>
</tr>
<tr>
<td>Graphic Design</td>
<td>Industrial Design</td>
<td>Interaction Design</td>
<td>Environment Organization &amp; Systems Design</td>
</tr>
</tbody>
</table>

Richard Buchanan, 1999, 2017
<table>
<thead>
<tr>
<th>Signs</th>
<th>Things</th>
<th>Actions</th>
<th>Thoughts</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1st Order</strong></td>
<td>Problems of Communication</td>
<td>Problems of Construction</td>
<td>Problems of Action</td>
</tr>
<tr>
<td>Signs</td>
<td>Graphic Design</td>
<td>Things</td>
<td>Actions</td>
</tr>
<tr>
<td><strong>2nd Order</strong></td>
<td></td>
<td>Industrial Design</td>
<td>Interaction Design</td>
</tr>
<tr>
<td><strong>3rd Order</strong></td>
<td></td>
<td></td>
<td>Environment &amp; Environment Design</td>
</tr>
<tr>
<td><strong>4th Order</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Richard Buchanan, 1999, 2017
Design Attitude & Education
Design Attitude: Abilities & Capabilities


1. Ability to see the whole situation
   - Make connections
   - Hold analytic & synthetic perspectives
   - Consolidate multi-dimensional meanings

2. Passion for bringing ideas to life
   - Delight in wonder & surprise
   - Delight in making ideas concrete
   - Delight in creative action

3. Willing to take risks without fully knowing the outcome in advance
   - Embrace discontinuity & open-endedness
   - Embrace ambiguity & improvisation as essential to innovation
   - Willing embrace of change
   - Brave & courageous in exploration
   - Willing to resist premature closure

4. Open to visualization & exploration of all of the senses in seeking solutions
   - Appreciate the aesthetics of human experience
   - Possess a sense of beauty, but recognize that beauty opens the door to functionality and service
   - Aware that the visual can break deadlocks & stimulate dialogue

5. Able to empathize with the human side of situations
   - Have a concern for people
   - Able to communicate
   - Able to tolerate differences
   - Able to balance ego and play in groups
   - Feel empathy with customers as well as commercial interests and the needs of business and the organization
Wicked Problems
&
The Triangle of Doom
Logos

The Elements of Products

Technological Reasoning,
The Logic of the Design
“Useful”

Balance, The Designer’s Stance

Pathos

The Accessibility or Affordances of the Design, “Usable”

Ethos

The Character or Voice of the Design, “Desirable”

Richard Buchanan, 1999, 2017
Thank you