Paper or Plastic?

Watershed Media
Searching for Solutions to an Overpackaged World
• Packaging is a $500 billion global industry
• Nearly 60 percent of all packaging is for food and beverages
• Europe, North America and Japan consume nearly 2/3 of all packaging
- Over half of packaging is wood-based
- In the U.S. alone, 315 million disposable drink cups are used every day
- Global packaging grew at about 3.95% between 1993-2003
- More than 800 pounds of packaging per person per year in U.S.
In an environment that is screwed up visually, physically, and chemically, the best and simplest thing that architects, industrial designers, planners and others could do would be to stop working entirely.
But it seems to me that we can go beyond not working at all and work positively.

Victor Papanek
Design for the Real World
The Packaging Stream
Upstream vs. Downstream
90%  UPSTREAM
Raw materials
Processing
Design
Manufacture
Transportation

10%  DOWNSTREAM
Recovery
Reuse
Recycling
Landfilling
Incineration
Litter
What it Does ...

Product protection
Convenience and pleasure
Safety and hygiene
Nutrition
Spoilage prevention
Information and Branding
Transportation and trade
What it Takes to Do ...

Energy
Water
Raw materials
Design
Labor
Transportation
Infrastructure
What Doing it Takes

- Airborne emissions
- Waterborne emissions
- Solid Waste
- Habitat impacts
- Climate impacts
- Human community impacts
Cultural, economic, ecological concerns

• Packaging eliminates traditional producer/customer relationships
• Packaging increases distances between producers and consumers
• Many food and beverage packages have shelf-lives thousands of times longer than the actual product
The shape of things to come
The Package is the Product
Predatory Packaging
The de-evolving food chain
Faith in the packaged versus the natural and unprocessed
Retailer Responsibility
It is possible to believe both that some packaging is essential, and that the trend is still toward increasing waste in packaging. Waste could result from a competitive “arms race” in which one company adopts larger, more elaborate packaging solely to compete with another company’s larger more elaborate packaging, in the struggle to win the attention of consumers.—Frank Ackerman, Tufts University
Extended Producer Responsibility
Essential Requirements

• Materials must be separable and recoverable
• Degradable packages must be organically recoverable
• Packages must be as small as possible
• Packages must be free of noxious substances
• Preference for reusable materials
Source Reduction

[Image of an empty Ben & Jerry's ice cream container]
Source Reduction

- Reduce package weight and volume
- Minimize the number of materials
- Reduce energy consumption
- Maximize post-consumer content
- Strengthen or reformulate the product
- Eliminate a material or element
Wood Reduction

- Source reduction
- Source avoidance
- Source substitution
- Source protection
- Source certification
- Natural Capital Accounting
The Benefits of Switching to 35 percent postconsumer recycled content for medicine or cosmetics paperboard

<table>
<thead>
<tr>
<th>Annual Benefit</th>
<th>Annual Equivalent</th>
</tr>
</thead>
<tbody>
<tr>
<td>• 156,000 tons of greenhouse gases</td>
<td>• CO2 from 27,000 cars driven 200 miles per week</td>
</tr>
<tr>
<td>• 2.6 billion gallons of wastewater</td>
<td>• Wastewater from 27,000 households</td>
</tr>
<tr>
<td>• 510,000 trees</td>
<td>• Copy paper for 11m people</td>
</tr>
<tr>
<td>• 106,000 tons of solid waste</td>
<td>• Trash generated by 49,000 households</td>
</tr>
</tbody>
</table>
Natural Systems Design
Natural System Design Elements

- Sound
- Solar
- Efficient
- Cyclic
- Humane
- Safe
- Conservation-based
- Nature Inspired Designs
Mini-mill Technologies
Third-Party Certified Materials
Forest Stewardship Council Certification

- Conserve forests’ economic resources
- Recognize and respect rights of indigenous peoples
- Protect biological diversity
- Regular monitoring and assessment
Bioplastics — The “Cornification” of Packaging

- Corn dominates the United States landscape and creates a “Dead Zone”
- Corn requires more synthetic fertilizers and pesticides than nearly any other crop
- Genetically modified corn varieties now contaminate seed banks in U.S. and Mexico
The Global Revival of Local Economies
Packaging Guidelines

• Designed from a whole systems perspectives
• Contains no ancient forest fibers; virgin fibers come from a verified third-party source
• Avoids hazardous chlorine compounds, heavy metals, and other toxins
• Can be reprocessed within local and regional resource loops whenever possible
More Thoughts …

• Uses as few materials as possible and breaks down easily into reusable or separable elements
• Considers how a redesigned or reformulated product can affect packaging
• Is only as large as it needs to be
• Is safe for all species and habitats
• Has been optimized through some form of life cycle study
More Thoughts …

• Is information-intensive as opposed to material- and energy intensive
• Contains as much post-consumer recycled or agricultural waste materials as possible

• Attempts to close the gap between the life span of its materials and the shelf-life of the product it packages
• *Paper or Plastic: Searching for Solutions to an Overpackaged World*

• *Building with Vision: Optimizing and Finding Alternatives to Wood*

• *Farming with the Wild: Enhancing Biodiversity on Farms and Ranches*

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