College of Design, Architecture, Art and Planning
+
The Live Well Collaborative

University of Cincinnati
Craig M. Vogel
Associate Dean
The Argument and the Opportunity

Part 1 What is design thinking?

Part 2 The Evolution of the Argument

Part 3 Case Studies

Part 4 The Potential Opportunity
Michael Greenberg

Michael Greenberg, PhD.

Nathan Marsh Pusey Professor of Neurobiology,
Professor of Neurology and Neuroscience,
Harvard Medical School

Department Chair of Neurobiology,
Harvard Medical School
Hans Rosling's 200 Countries, 200 Years, 4 Minutes - The Joy of Stats - BBC Four
youtube video
Healthcare as a service

Healthcare sector is evolving as a new version of the consumer driven economy.

Patient centered + translational research creating faster cycles of innovation from labs to patient care.
Thomas Eakins: Painting of Surgical Theatre
GE Healthcare: *Adventure Series*

1. Intro into
  *Design thinking*

GE Healthcare

Understanding Kids’ Anxiety Points During MRI
1. Intro into 
   Design thinking

GE Healthcare

Creating 8 different room themes appealing to kids and involving all their senses.
The Argument and the Opportunity

Part 1 The Evolution of the Argument

Part 2 What is design thinking?

Part 3 Case Studies

Part 4 The Potential Opportunity
Joseph Banks King George III
And The Royal Society
William Herschel + Caroline Herschel

Hanover, Germany
Humphry Davy

Poet
Pneumatic Institution
In Bristol
Studies in Nitrous Oxide
Support from James Watt

Brought to London by Banks
Breakthroughs in Chemistry
Public Lectures
Inventions
The Lunar Men: *Interdisciplinary team*
Joseph Priestly  Vs.  Antoine Lavoisier
What does it mean for UC Health?
How did we get here?

How has Design Thinking evolved in the last 200 years?
Jefferson was a designer

His bed was located between two rooms.

Each day he chose which room to go to first.
Jefferson’s Multitasking Office
Development of Employment (1800 – 2000)

From the Agrarian and the Industrial to the Information Age

Leo A. Nefliodow, Deutsche Konratieff (Stuttgart: FAZ/Gabler, 1990)
Pioneers of American Industrial Design

Peter Müller-Munk  
Pizza USA

Frederick Hurten Rhead  
Dinnerware USA

Raymond Loewy  
Streamlined Pencil Sharpener USA

Donald Deskey  
Table Lamp USA

Henry Dreyfuss  
Desk Telephone USA

Norman Bel Geddes  
Radio USA

Dave Chapman  
Sewing Machines USA

Greta von Nessen  
Lamp USA

Elliot Noyes  
Typewriter USA

Russel Wright  
Flatware USA

Gilbert Rohde  
Electric Clock USA
Raymond Loewy Understood Brand
Raymond Loewy Understood Brand

Loewy Corporate Identity
A Comprehensive Strategy for Branding Retail Environments in the 1970’s
Chronology of Services
How Apple moved from product to service...
Gates Foundation as a social service
Definition of Design

- Herbert Simon
  - Humans do two things that are unique to our species
    - We ask the question why?
      - Science
      - Religion
    - We ask what can we do to change things?

- That question leads us to Design which is the act of:
  *Changing Existing Situations into Preferred Ones*
The Argument and the Opportunity

Part 1 The Evolution of the Argument

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What is design thinking?
Definition of Design Thinking

• The appropriate blend of qualitative and quantitative thinking with the goal to produce positive change that responds to the needs of consumers

• Produces Comprehensive Visualizations of Future Alternatives allowing for interaction and feedback from stakeholders early in the process

• Reduces the potential for unintended consequences

• Helps companies and culture evolve thoughtfully blending continuity and change

• Produces profit for organizations that invest in its use by developing Brand identity and consumer loyalty

• It is inherently interdisciplinary.
Levels of Design Thinking

• *Design Strategy (Conceptual thematic)*
  – Broad Goals with Social/Cultural Corporate implications

• *Design Planning (Logistical Framework)*
  – Products
  – Information
  – Services

• *Design Management*

• *Directing designers and interdisciplinary teams*

• *Design Execution and Implementation*
  – Converting strategy and insights into objects images and action
Big D and Little d’s in Design and DAAP

\[ D = \begin{align*}
\text{Strategy} \\
\text{System} \\
\text{Service}
\end{align*} \]

\[ d = \begin{align*}
\text{ID} \\
\text{Interior} \\
\text{GD/IXD} \\
\text{Arch} \\
\text{Fashion} \\
\text{Planning}
\end{align*} \]
How do we teach Design Thinking and Methods to students at DAAP?
Two Different Approaches To Design

- Phillipe Starck
  - Designer Ego Centered
  - $100.00

- Smart Design
  - Consumer Stakeholder Centered
  - For OXO
  - $10.00
The focus for today:

- Consumer Centered
- User Centered
- Co-Design
- User Experience
- Socially Responsible Design
- Universal Design
- Inclusive Design
- Empathic Design
The focus for today:

Consumer Centered
User Centered
Co-Design
User Experience
Socially Responsible Design
Universal Design
Inclusive Design
Empathic Design
Empathy + Patient Centered Healthcare
Translational Research
Product = Service

Creating Breakthrough Products
Innovation from Product Planning to Program Approval

Second Edition
Creating Breakthrough Products
Revealing the Secrets That Drive Global Innovation

Jonathan Cagan - Craig M. Vogel
Foreword by Bruce Nussbaum

Jonathan Cagan - Craig M. Vogel
Foreword by Dee Kopur
Where do product/service opportunities originate?

**SET Factors**

**SOCIAL**
Social and cultural trends and drivers
Reviving historical trends

**ECONOMIC**
State of the economy
Shift in focus on where to spend money
Level of disposable income

**TECHNOLOGY**
State-of-the-art and emerging technology
Re-evaluating existing technology
Structuring Early Stages of New Product / Service Development

- A multi-stage funnelling process
- Often called: “The Fuzzy Front End”

From Cagan & Vogel, *Creating Breakthrough Products*
Example SET Factors

**SOCIAL**
- Increased awareness for needs of physically challenged
- Universal design and ADA/OSHA legislation
- Increase in percent of people 65 and over
- Increase in culinary food preparation in the home

**ECONOMIC**
- Seniors have disposable income
- Increase in money spent in housewares
- Adult children buying aids for aging parents

**TECHNOLOGY**
- Neoprene used in new application
- New molding techniques
- New standard for manufacturing tolerances
OXO - From 3 initial products to 400+ NO ADVERTISING
Positioning: Move to the Upper Right

High Style
Low Tech

High Style
High Tech
High Value
High Service

Low Style
Low Tech

Low Style
High Tech

Style

Technology
Positioning Map: OXO GoodGrips
GoodGrips: Complete Integration

**OVAL HANDLE**

- **Ergonomics:** optimum shape for hand grip and comfort
- **Aesthetics:** oval shape was very popular shape when product was introduced; does not show dirt or oils; blends well with contemporary kitchen environments
- **Manufacturing:** shape is easy to mold

**FINS**

- **Ergonomics:** allows for comfortable grip with thumb and index finger
- **Aesthetics:** overall shape of curve echoes oval shape of handle. Thin parallel fins make handle appear lighter
- **Manufacturing:** holding tolerance of fin thickness challenges structural integrity of Santoprene; thin fins give product a high quality look that displays dedication to quality manufacturing

**COUNTERSUNK HOLE**

- **Ergonomics:** allows owner to guide product onto a holder post
- **Aesthetics:** the counter sunk hole is more subtle than a hole with consistent diameter; the light gives tapered slope an interesting variation of reflection and shadow
- **Manufacturing:** the hole reduces amount of Santoprene reducing cost

**SHIELD AND CORE**

- **Ergonomics:** creates a protective cover over blade
- **Aesthetics:** curve echoes shape of the handle
- **Manufacturing:** serves as structural core for product; strengthens handle; reduces the amount of metal needed to only the blade; serves as structural support for blade
OXO Extensions
Understanding Value
Soft and Hard Quality

• Soft Quality becomes a primary determinant for lifestyle impact and brand recognition.

• *It drives the first moment of truth.*

• Hard Quality helps to develop secondary lifestyle impact and long-term brand loyalty.

• *Delivers on the 2nd and 3rd moment of truth*

• The next step is segmenting value into discrete attributes and then using that segmentation to conduct VOA’s (Value Opportunity Analysis)
Value Opportunities:
*Form and Function Fulfilling Fantasy*

- **Emotion**
  - Sense of adventure
  - Feel of independence
  - Sense of security
  - Sensuality
  - Confidence
  - Power

- **Aesthetics**
  - Visual
  - Tactile
  - Auditory
  - Olfactory
  - Gustatory

- **Impact**
  - Social
  - Environmental

- **Identity**
  - Personality
  - Point in time
  - Sense of Place

- **Ergonomics**
  - Ease of use
  - Safety
  - Comfort

- **Core Technology**
  - Reliable
  - Enabling

- **Quality**
  - Craftsmanship: fit and finish
  - Durability: performance over time
## Value Opportunities Chart

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How did we get here?

Exploring the evolution of the scientific method
The Argument and the Opportunity

Part 1 The Evolution of the Argument

Part 2 What is design thinking?

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connect + develop

“We will acquire 50% of our innovations from outside P&G.”

A.G. Lafley
Former Chairman of the Board
and Chief Executive Officer
Tide

Package -> Service
P&G’s Moments Of Truth

According to Proctor & Gamble shoppers make up their mind about a product in three to seven seconds. Just the time it takes to note a product on a store shelf. This time lapse is called (by P&G) “first moment of truth” and it’s considered the most important marketing opportunity for a brand.

P&G created a position…

“Director of First Moment of Truth”.

Services consist of several Moments of Truth

1. *Zero Moment of Truth*: When the user/patient is searching online for a product with an intention to understand the product that he/she intends to consume or buy.

2. *First Moment of Truth*: When the consumer/patient goes to the store and interacts with the brands in the store.

3. *Second Moment of Truth*: When the consumer/patient brings home the product and experiences the product. The consumer/patient checks if they delivered on the promises made or not.

4. *Third Moment of Truth*: When the consumer/patient gives feedback or how the consumer/patient advocates the brand?
Design Value Matrix

Sam Lucente
Design as strategic planning leading to product innovation
Design as strategic planning leading to product innovation

D³ Matrix

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<tr>
<th>Design to Innovate</th>
<th>Design to Differentiate</th>
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<td>Balanced Innovation Portfolio</td>
<td>Build IP</td>
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<td>Cultivating new growth prospects</td>
<td>Coordinated roadmaps lead to short and long term success</td>
<td>Proprietary assets create a sustainable advantage</td>
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<td>A Cohesive System</td>
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<td>Addressing unmet needs with compelling solutions</td>
<td>Coordinating product portfolios to work better together</td>
<td>An emotional connection to business offerings</td>
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<td>A User Aware Supply Chain</td>
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<td>Process improvement and the efficient use of assets</td>
<td>Improving user interactions across a range of products</td>
<td>Optimizing the supply chain in a way that doesn’t sacrifice the customer experience</td>
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Business Processes and Tools | Experiences, Solutions & Services | Capital, Technologies & Assets |

This work is licensed by Hewlett-Packard under the Creative Commons Attribution 3.0 Unported License. To view a copy of this license, visit http://creativecommons.org/licenses/by/3.0/ or send a letter to Creative Commons, 444 Castro Street, Suite 900, Mountain View, California, 94041, USA.
Design as strategic planning leading to product innovation
The Argument and the Opportunity

Part 1 The Evolution of the Argument

Part 2 What is design thinking?

Part 3 Case Studies

Part 4 The Potential Opportunity
How do we move from ad hoc experiments to a strategic relationship?

UC Health + Live Well = ?

How can design as practiced at DAAP make a difference?

- Qualitative to Quantitative
- Comfortable with other disciplines
- Consumer focused
- Translating information into solutions
- Multiple models/visualizations/representation of future alternatives
- Moving forward with less information and building deeper knowledge as the process progresses
- The ability to see opportunities and patterns
This relationship could make a significant donation to the evolution of Empathic Healthcare and Translational Research.

The Beginning