

AIGA, Design Futures Workshop  
NCSU Raleigh, NC August 5, 2019

# **Evolving Definitions of Product and Experience**

Hugh Dubberly  
Dubberly Design Office

Presentation posted at  
[presentations.dubberly.com/AIGAProduct.pdf](http://presentations.dubberly.com/AIGAProduct.pdf)

# A matrix of design: the six types

Jay Doblin, 1987

Tangible objects and messages

---

## **Appearance Products**

Christmas ornaments

Medals

Trophies

---

## **Performance Products**

Crowbars

Paper clips

Sets of coordinated products  
and the people who operate them

---

## **Appearance Unisystems**

Restaurant environment

South Street Seaport

Disneyland

---

## **Performance Unisystems**

Compact kitchen

NASA space mission

United Airlines

Competing unisystems

---

## **Appearance Multisystems**

The fashion industry

---

## **Performance Multisystems**

The airline industry

The computer industry

From "A Short, Grandiose Theory of Design," STA Design Journal

# Era analysis: evolution of design

Joi Ito, 2017

---

**Objects** (physical and immaterial)

---

**Systems**

---

**Complex Adaptive Systems**

*“Design has also evolved from the design of objects both physical and immaterial, to the design of systems, to the design of complex adaptive systems.”*

*This evolution is shifting the role of designers; they are no longer the central planner, but rather participants within the systems they exist in. This is a fundamental shift — one that requires a new set of values.”*

— **Joi Ito**, “Design and Science,” January 11, 2016

# Three eras of products

Dubberly, Cain, Forlizzi, & Pangaro, 2019

For thousands of years

---

## Handcrafted Services

Haircut

Starting ~1450 – 1850

---

## Mass-produced Services

CBS “60 Minutes” news magazine

Starting ~1975 – 2025

---

## Product-service Ecologies

Apple-iPhone-iOS-app store

---

## Handcrafted Products

Farmer’s cart, made for a specific field  
[see Christopher Alexander]

---

## Mass-produced Products

Ford Model T

---

## Product Ecologies

IBM PC + Intel + MS DOS

# Product era analysis

Dubberly, Cain, Forlizzi, & Pangaro, 2019

	<b>Hand-crafted Objects</b>	<b>Mass-produced Products</b>	<b>Product-service Ecologies</b>
Scale	Small (one-at-a-time)	Huge (large batches)	Huge (world-wide)
Timeframe	Bounded	Bounded	Ongoing
Complexity	Limited	Greater	Greater still
Outcomes	In the maker's control	Calculated & optimized	Emergent
Objects	Made by hand	Made by machine	Embedded in service systems
Associations	Maker knows user	Anonymous transaction	Surveillance "relationship"
Values	Waste not / want not	Solve / specify	Adapt / test

# Product era analysis (cont.)

Dubberly, Cain, Forlizzi, & Pangaro, 2019

## Handcrafted Objects

Design occurs *during* making, modifications for context.

- Often, made-to-measure (bespoke, personalized)
- Dumb
- Stand-alone
- Knowledge is embedded *in* the artifact and the maker

## Mass-produced Products

Customer input is rare; extremely small samples.

- Mostly, made-in-advance (ready-made to standard sizes)
- Dumb
- Stand-alone
- Knowledge is embedded in artifact *and* production process

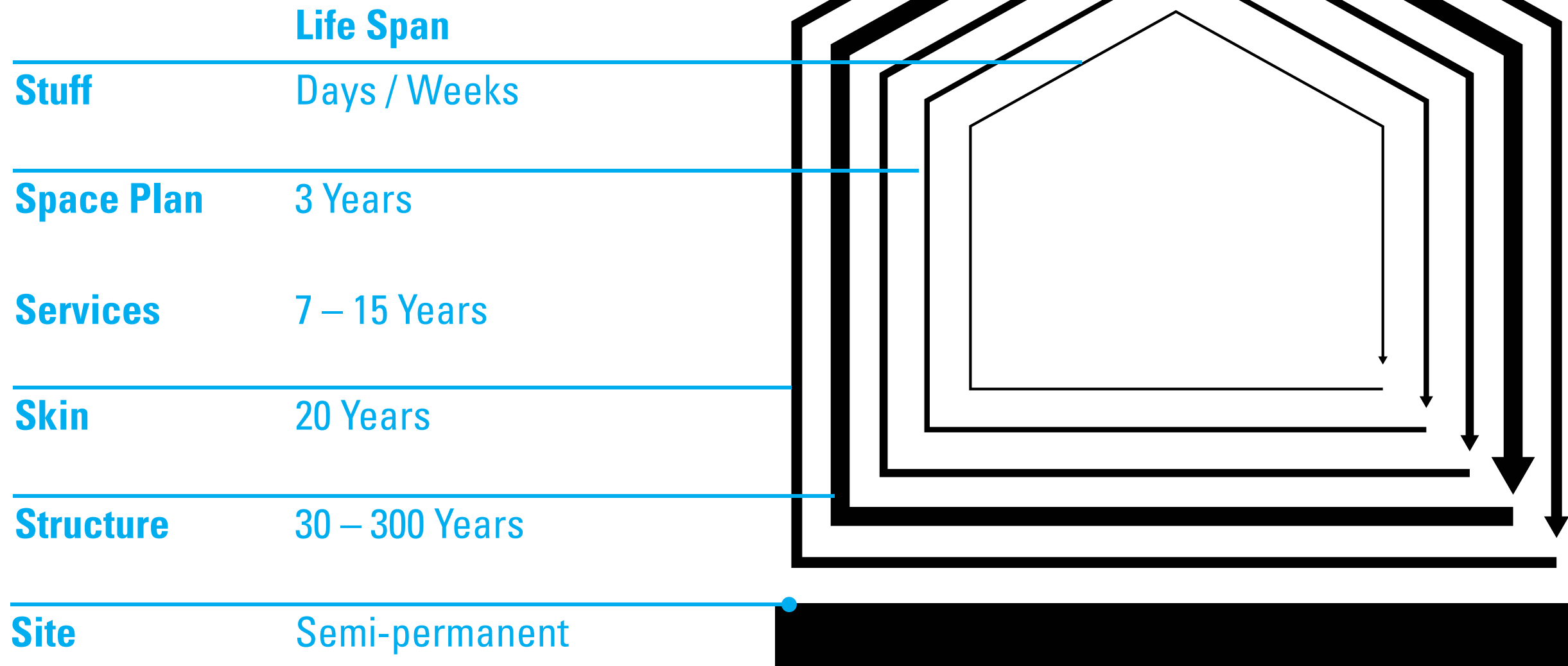
## Product-service Ecologies

A-B testing becomes standard; every action is recorded.

- Mass manufactured *and* mass customized
- Smart & aware
- Connected to cloud storage, compute, and services
- Knowledge flows from users and back-and-forth through the system

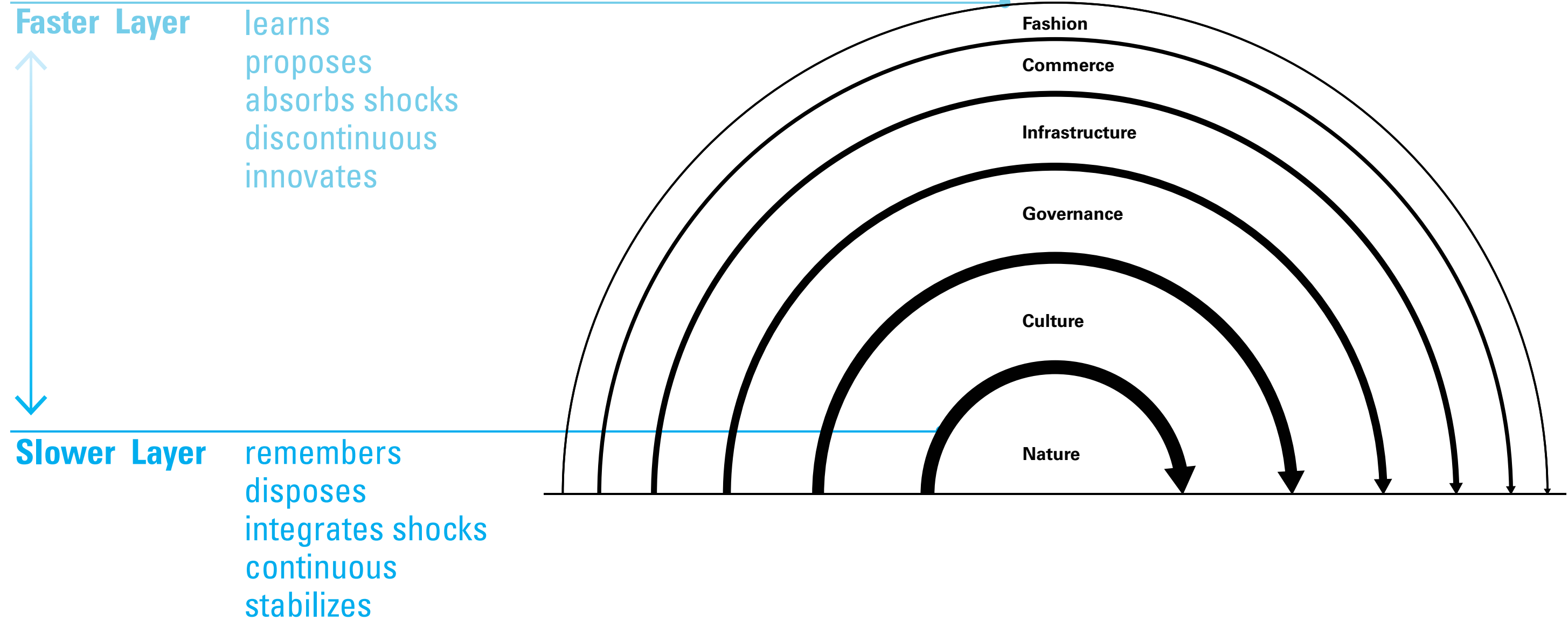
# Shearing layers of change

Stewart Brand, 1994 (after Frank Duffy)



# Pace layering — the six distinct time scales

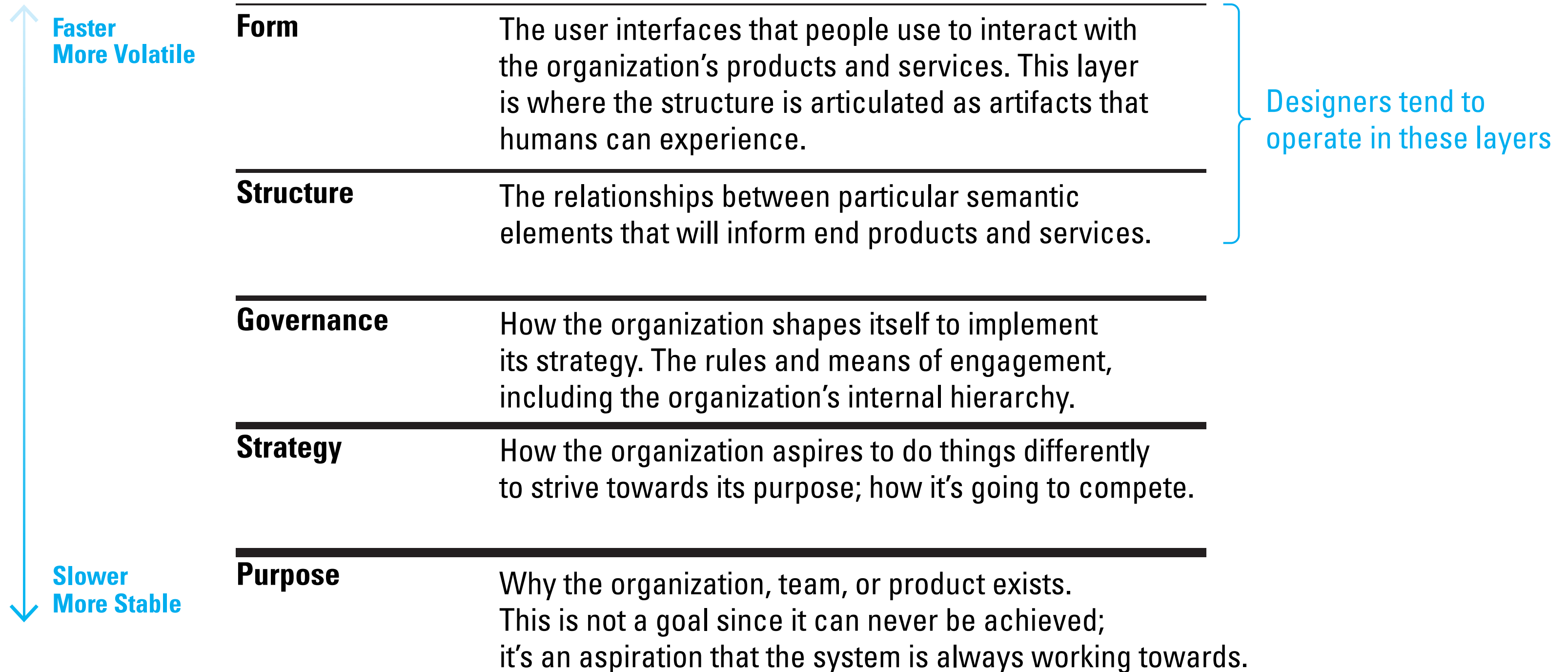
Stewart Brand, 1999





# Pace layers in product management

Jorge Arango, 2018



**Special thanks to**

**John Cain**

**Jodi Forlizzi**

**Paul Pangaro**

**Marina Menéndez-Pidal**

Hugh Dubberly  
Dubberly Design Office

Presentation posted at  
[presentations.dubberly.com/AIGAProduct.pdf](http://presentations.dubberly.com/AIGAProduct.pdf)