Design Day

*"**Design** is basic to all human activities – the placing and patterning of any act towards a desired goal constitutes a design process." -- Victor Papanek*

Design is…

…a roadmap or a strategic approach for someone to achieve a unique expectation. It defines the specifications, plans, parameters, costs, activities, processes and how and what to do within legal, political, social, environmental, safety and economic constraints in achieving that objective.

Both artists and scientists operate on the physical world as it exists in the *present* (whether it is real or symbolic), while mathematicians operate on abstract relationships that are independent of historical *time*.

Designers, on the other hand, are forever bound to treat as real that which exists only in an imagined *future* and have to specify ways in which the *foreseen* thing can be made to exist. — *John Chris Jones*, *Design Method*

"Design… is the core of all professional training; it is the principal mark that distinguishes the professions from the sciences. Schools of engineering, as well as schools of architecture, business, education, law, and medicine, are all centrally concerned with the process of design."

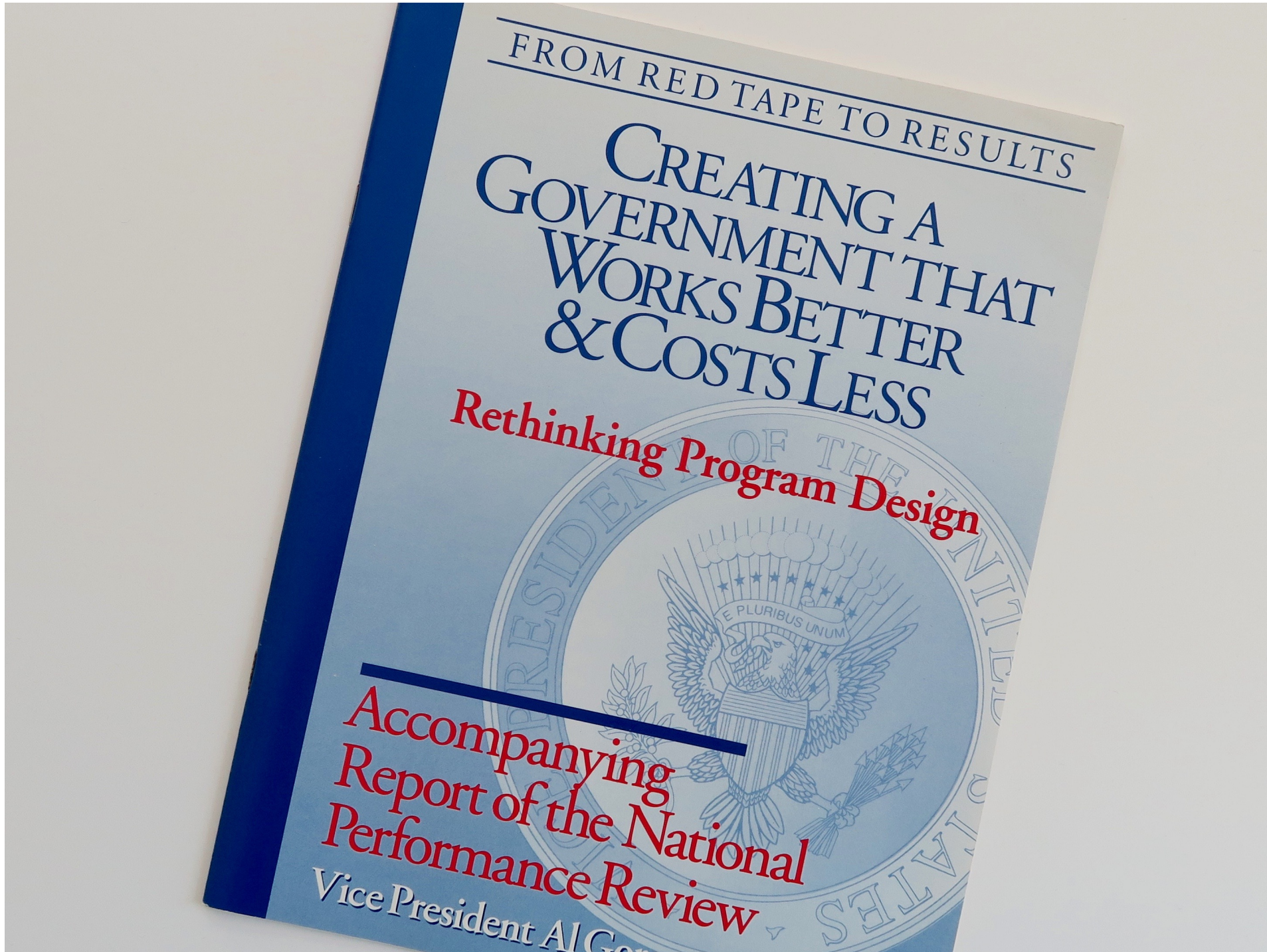
-- Herbert A. Simon The Sciences of the Artificial (1969)

Design is not “an issue” in Washington

- I’ve been in the area & reading the Washington Post since 1964.
- The design of government programs has never come up – and I’ve worked in 7 cabinet departments, several independent agencies, the energy crisis, the White House (twice), and on one Transition Team.
- The law school closest to the Capitol (Georgetown) doesn’t address the issue – I’m Class of 1972 and I keep up. Ditto w/DC Bar Assn.
- I wrote a paper on Program Design in 1977 [Now on my website]. I got no support at Commerce -- they wouldn’t pay for my travel.
- I DID have the opportunity to suggest program design to Vice President Al Gore once, but he said “We don’t have the time.”

“It’s easier to get forgiveness than permission.”

— Rear Admiral Grace Hopper


FROM RED TAPE TO RESULTS
CREATING A GOVERNMENT THAT WORKS BETTER & COSTS LESS
Rethinking Program Design
E PLURIBUS UNUM
Accompanying Report of the National Performance Review
Vice President Al

The Program Design Report died.
It was one of 39 such reports.

- 4 “Actions” were listed
- There was no followup.

HANDBOOK OF PUBLIC ADMINISTRATION

SECOND EDITION

JAMES

The Handbook of Public Administration (2nd Ed, 1996) had 745 pages, 8 parts, and 42 chapters.

Chapter 13, “Designing Effective Programs,” by Carson Eoyang & Peter Spencer, got 18 pages that included the following:

“Despite the best intentions of successive administrations, the federal government has spawned burgeoning numbers of public programs that are badly designed, ill conceived, and fatally flawed.” p 232

“Unfortunately, the lack of well-developed program design principles and techniques within government may still cause fundamental issues of program structure and process to receive inadequate attention.” p 233

The Tools of Government

Lester Salamon, Ed., Oxford University Press, 2002 (669pp)

- Lester Salamon asked me to teach the second section of his course on the tools of government at the Institute for Policy Studies (IPS) at Johns Hopkins University (Homewood Campus). The course was required for the Masters in Public Policy degree. I did so for two years (2011 & 2012).
- Enrollment then dropped as IPS began to be folded into the Johns Hopkins Bloomberg School of Public Health – so there was no need for a second section!

Lester Salamon's Tools of Government (1 of 2)

- **1. Direct Government**
- **2. Government Corporations & Government-Sponsored Enterprises**
- **3. Economic Regulation**
- **4. Social Regulation**
- **5. Government Insurance**
- **6. Public Information**
- **7. Corrective Taxes, Charges, & Tradable Permits**

Lester Salamon's Tools of Government (2 of 2)

- **8. Contracting**
- **9. Purchase-of-Service Contracting**
- **10. Grants**
- **11. Loans & Loan Guarantees**
- **12. Tax Expenditures**
- **13. Vouchers**
- **14. Tort Liability**

U.S. Federal Housing Programs by Tool (FY99)

• Expenditures	Amount	% of Total
• Subsidies (§8)	$21.1b	6.3%
• Mortgage credit	0.4	0.1
• Public housing	6.0	1.8
• Rural housing	0.6	0.2
• Veterans housing	1.6	0.5
• SUBTOTAL	29.7	8.9
• Other		
• Loan guarantees	187.6	56.4
• Direct loans	1.1	0.3
• Tax expenditures	114.4	34.4
• SUBTOTAL	303.1	91.1
• GRAND TOTAL	$332.8b	100.0%

Tool Features

Tool	Product/Activity	Vehicle	Delivery System
• Grant	Good or service	Cash	Nonprofit entity
• Liability	Social protection	Tort law	Court System

Criteria for Evaluation

- Effectiveness
- Efficiency
- Equity
- Manageability
- Legitimacy & Political Feasibility

Key Tool Dimensions

- Degree of Coerciveness
- Directness
- Automaticity
- Visibility

But the **Contracting Tool** includes:

- Buying copying paper
- Buying F35 Lightning Fighter Jets
  (or the $400,000 helmets for their pilots)
- Creating incentive prize competitions

“Incentive prizes seem deceptively simple: Identify a problem, create and publicize a prize-based challenge for solving that problem, sign up diverse participants, and offer a reward to the winner.

“In practice, designing prizes that target the right problem, attract the most capable participants, and capture the imagination of the public to successfully achieve a desired outcome involves a complex set of design choices.”

from the Executive Summary, The Craft of Incentive Prize Design
Deloitte Consulting, 2014: 82 pages long with two pages of acronyms and 159 footnotes

Extending the Tool Set

- Establishing subcategories for each tool
- Noting their key tool dimensions
- Detailing their design features
- Exploring their applicability
- Evaluating their use
- *(And maybe finding new ones??)*

For Example…

Cass Sunstein has written extensively about “nudges.”

Examples include:

- Food arrangements in school cafeterias (healthier higher, first)
- “Opt out” clauses for health insurance (vs “Opt in”)
- Dollar-a-day contracts for teenaged mothers with one baby

Are nudges just “public information” or “contracts?” Salamon says so.

See the books Nudge and Simpler -- The Future of Government

- Perhaps the best way to learn about "design" *per se* is to watch a movie. It's available online. (surprise!)

One version of the design thinking process has seven stages: *define, research, ideate, prototype, choose, implement*, & *learn*.[4]

Within these seven steps, problems can be framed, the right questions can be asked, more ideas can be created, and the best answers can be chosen.

-- *Design Thinking*, Wikipedia

Analysis and Synthesis

The terms analysis and synthesis come from (classical) Greek and mean literally "to loosen up" and "to put together" respectively.

In general, *analysis* is defined as the procedure by which we break down an intellectual or substantial whole into parts or components. *Synthesis* is defined as the opposite procedure: to combine separate elements or components in order to form a coherent whole.

However, analysis and synthesis, as scientific methods, always go hand in hand; they complement one another.

Every synthesis is built upon the results of a preceding analysis, and every analysis requires a subsequent synthesis in order to verify and correct its results.

Divergent and Convergent

Design thinking employs divergent thinking as a way to ensure that many possible solutions are explored in the first instance, and then convergent thinking as a way to narrow these down to a final solution.

Divergent thinking is the ability to offer different, unique or variant ideas adherent to one theme while convergent thinking is the ability to find the "correct" solution to the given problem.

Design thinking encourages divergent thinking to ideate many solutions (possible or impossible) and then uses convergent thinking to prefer and realize the best resolution.

Henry Petroski, my favorite engineer, provides the key insight into design: Good design requires both understanding and anticipating failure.

“Failure is an unacceptable difference between expected and observed performance. Good design is thus proactive failure analysis, something that both a designer and a chooser among designs ought to practice. Anticipating and identifying how a design can fail — or even just be perceived to fail — is the first step in making it a success.” p. 51

—Henry Petroski, Success Through Failure (2006)

Sweden opened a Museum of Failure in 2017

Not kidding! Go to www.museumoffailure.se and take a look!

Some positive persisting fops we know,
Who, if once wrong, will needs be always so;
But you, with pleasure own your errors past,
And make each day a critic on the last.

— Alexander Pope, *An Essay on Criticism* (1709)

During economic downturns, the Economic Development Administration (EDA) in Commerce for years got money to spend on construction projects to alleviate recessions (a negative feedback loop).

Often these projects took so long to get approvals that they got underway just in time to reinforce the next economic recovery (a positive feedback loop).

This was noted in 1976 by Commerce's new Office of Program Evaluation (which I had just started up).

The program was modified to request and approve only "Shovel-Ready" projects.

The program's counter-cyclical purpose was restored.

We changed the program's design.

"Congress never gets anything right the first time – after five or six years we have to revisit our 'solutions' and correct them."

— John Brademus

John Brademus was the president of New York University for 11 years and a Congressman from Indiana for 22 years. He served as Majority Whip under Tip O'Neill. He knew...

Our Perspective:

Systems Sciences: *Define and Research*

Design: *Ideate and Prototype*

Better Interventions: *Implement and Learn*

IDEO 2004: Observation

- Shadowing
- Behavioral mapping
- Consumer journey
- Camera journals
- Extreme user interviews
- Storytelling
- Unfocus groups

IDEO 2004: Brainstorming

- Defer Judgment
- Build on the ideas of others
- Encourage wild ideas
- Go for quantity
- Be visual
- Stay focused on the topic
- One conversation at a time

“Crowdsourcing”

Crowdsourcing is an “online, distributed problem-solving and production model.”

— Daren C. Brabham, author of Crowdsourcing (2013)

Crowdsourcing is the process of obtaining needed services, ideas, or content by soliciting contributions from a large group of people, and especially from an online community, rather than from traditional employees or suppliers. Merriam-Webster.com

Examples of Crowdsourcing

1714 – The Longitude Prize: When the British government was trying to find a way to measure a ship's longitude, they offered the public a monetary prize to whomever came up with the best solution.

2001 – Launch of Wikipedia: "Free-access, free content Internet encyclopedia"

2011: Participatory Budgeting in NYC (www.pbnyc.org)

2012: Oregon's Kitchen Table (www.oregonskitchentable.org)

The Federal Community of Practice for Crowdsourcing and Citizen Science (CSS) has made it happen:

On January 6th, 2017, President Obama signed the American Innovation and Competitiveness Act, which for the first time gives clear, broad authority to all federal agencies to conduct citizen science and crowdsourcing activities.

Customer Journey Mapping

- How would you describe your interactions with Chautauqua, from first learning about it to leaving after a your first visit?
- How about interactions with Whole Foods, and with 7-11?
- Are there ANY Department of Motor Vehicle offices that publish online their busiest and least busy office hours, by day, week, and month? What could be easier? (MD mentions wait times.)
- How about with the Internal Revenue Service?

Design Thinking is “au courant”

- Harvard Business Review (September 2015): ”The Evolution of Design Thinking” – 30 pages, four articles, on Change Management, Organizational Culture, Innovation, and Strategy
- Stanford Social Innovation Review (Spring 2017): “The New Science of Designing for Humans”
- Stanford Social Innovation Review (Summer 2017): “Creating Breakout Innovation”

“The New Science of Designing for Humans”

Piyush Tantia (of www.ideas42.org) says that simple brainstorming, limited in time and scope, should be augmented with the behavioral sciences and impact evaluation.

The behavioral sciences include: psychology, marketing, neuroscience, and behavioral economics, going beyond “Human Centered Design.”

Impact evaluation includes randomized controlled trials and other methods to measure the impact of programs and policies. This allows for experimenting and iterating (and even for failure!).

"Creating Breakthrough Innovation"

Joanna Levitt Cea and Jess Rimington (of www.recollectiveway.com) have identified the five "practices" of breakthrough innovation:

1. Share Power
2. Prioritize Relationships
3. Leverage Heterogeneity
4. Legitimize all ways of knowing
5. Prototype early and often

These are often necessary for innovations to be successful within organizations, and hence to spread to other organizations.

“Complex systems are shaped by all the people who use them, and in this new era of collaborative innovation, designers are having to evolve from being the individual authors of objects, or buildings, to being the facilitators of change among large groups of people.” p. 7

John Thakara, In the Bubble, 2006

Diffusion of Innovations – Everett Rogers

A landmark book:

"*Diffusion* is the process by which an *innovation* is *communicated* through *channels* over *time* among the members of a *social system*."

Best known for his discussions of innovators and early adopters:

Innovators: Venturesome
Early Adopters: Respectable
Early Majority: Deliberate
Late Majority: Skeptical
Laggards: Traditional

And now, the video…

FIRST FOLLOWER LEADERSHIP LESSONS

(see it at https://www.youtube.com/watch?v=8p9GZfhvrys)

Diffusion of Innovations – Everett Rogers

THE INNOVATION-DEVELOPMENT PROCESS:

- Recognizing a Problem or Need
- Basic and Applied Research
- Development
- Commercialization
- Diffusion and Adoption
- Consequences

- For “additional credit,” see Wikipedia for:
  - Design
  - Design Thinking
  - Wicked Problems
  - Problem Shaping
  - Tim Brown
  - Brainstorming
  - Crowdsourcing
  - Scenario Planning (“rehearsing the future”)
  - Delphi Method

So let’s do some “brainstorming!”

Choose:

1. How can we fix America’s health care system?
2. How can we fix America’s education system?
3. How can we fix America’s polarized political system?
4. How can we invest in America’s infrastructure?
5. How can we preserve oceangoing seafood populations?
6. How can we go about tackling global climate change?
7. How can we make government more effective & efficient?
8. How can we minimize the chances of the next Depression?
9. How can we tackle opioid drug abuse in America?
10. How can we tackle homelessness in America?
11. How can we keep parents from insuring and killing their kids?
12. How can we preserve Chautauqua far into the future?

1. Let’s try and identify the major sub-areas we need to be looking at.
2. Then I’ll distribute some Post-It notes.
3. Everyone should give some thought to what the PROBLEMS are.
    1. (And then post your thoughts)
4. And after a brief review, some thought to SOLUTIONS.
    1. (And post MORE thoughts)
5. And then, “LET’S DISCUSS!”

A few rules of brainstorming:

- Go for quantity
- Withhold criticism
- Welcome wild ideas
- Combine and improve ideas (“1+1=3”)