Faculty of Design

2013

Designing systems for praxis and critical engagement in design education: the speculative design method and the revelation of theory

Schaffzin, Gabriel and Kaiser, Zachary

A CURRICULUM OF LIBERATORY PRAXIS

Gabi Schaffzin and
Zachary Kaiser

HEI.

EDUCATION

WHENEVER WE NEED A REVOLUTION, WE GET A NEW CURRICULUM.

—Neil Postman, paraphrasing Lawrence Cremin

The Elements
of Typographic Style

Robert Bringhurst

APPROACH TO CRITIQUE THAT TRANSCENDS DESIGN DISCIPLINES.

ELEMENTS
RELATIONSHIPS
IDEOLOGY

A reinterpretation of Donella Medows'
description of systems,
in Thinking in Systems, 2008

ELEMENTS
RELATIONSHIPS
IDEOLOGY

GLOBAL CULTURE INDUSTRY
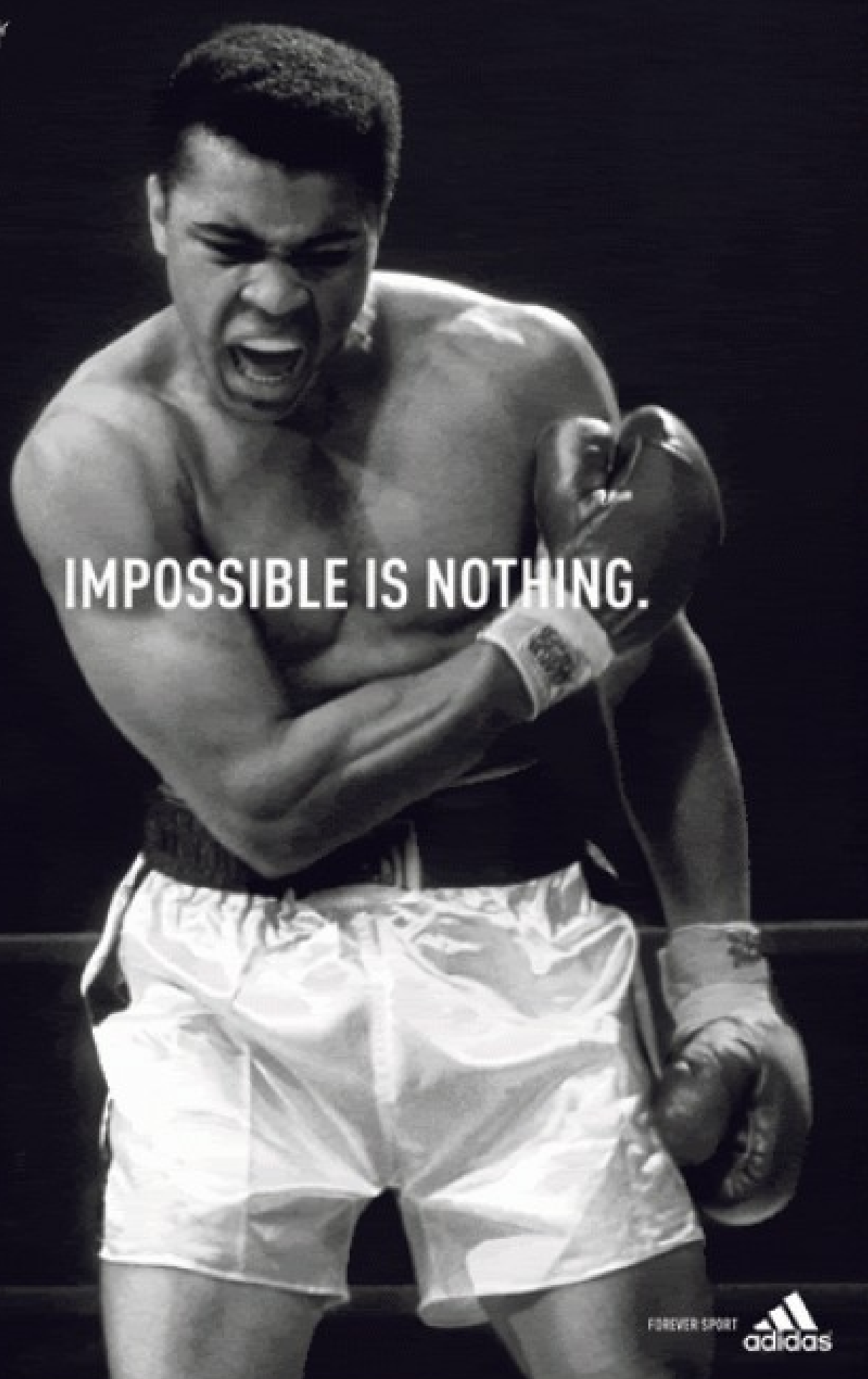
IMPOSSIBLE IS NOTHING.

FOREVER SPORT   adidas

WE ARE ALL WITNESSES.

Believe at nikebasketball.com

CLEVELAND
23

Nike
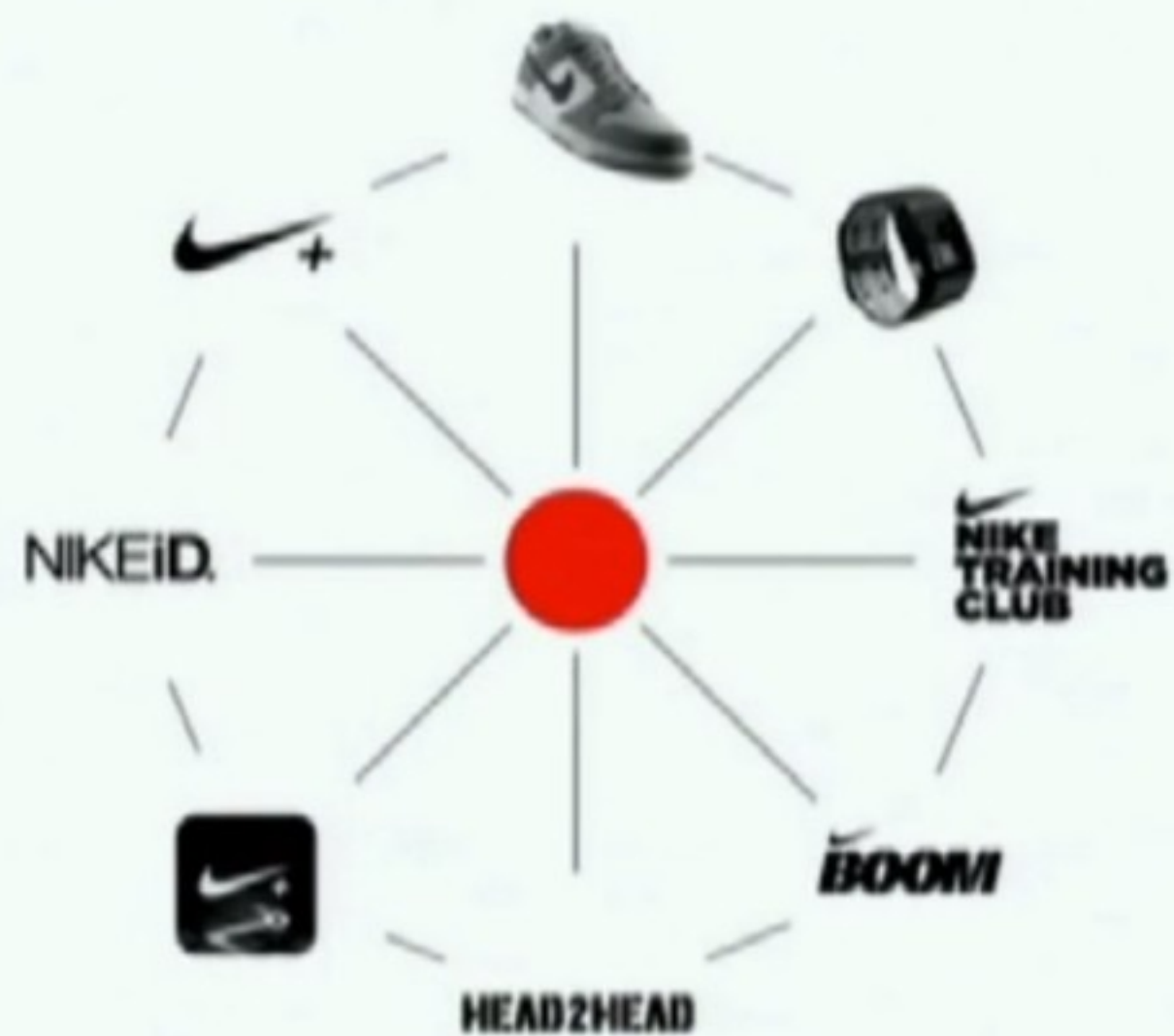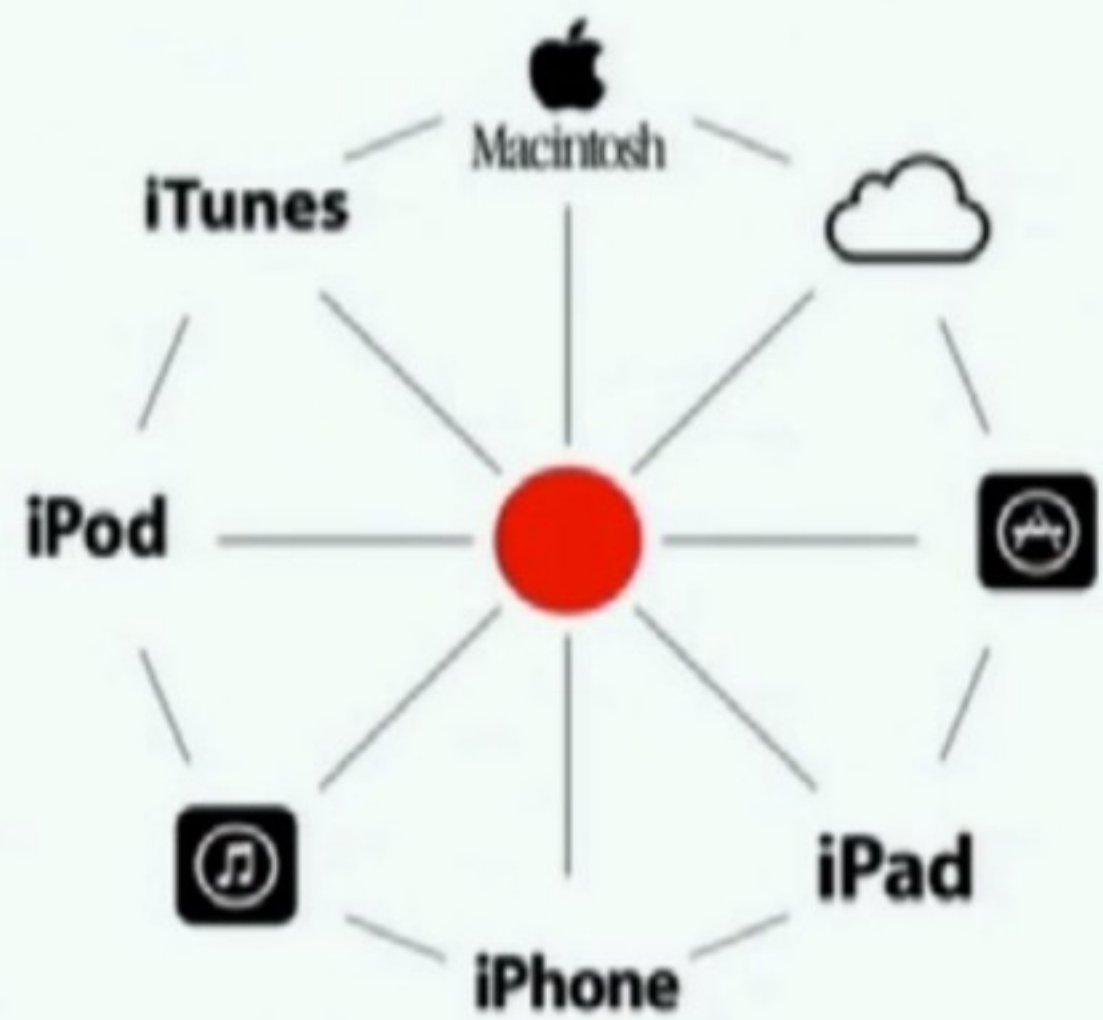
Pattern
5E
- Take the star shape and set the height to .45in
    Set color to C=2 M= 85 Y= 40 K=0
    Repeat shape horizontally decreasing the H by 10
    from the previous one.
    Repeat this step only 7 times.
    After the seventh time start over from the
    original setting.
    Continue this until a row is completed
    Duplicate row 0.1245in below the previous one.
    Repeat until page is filled
- Take the "A" & adjust height to .75in
    Adjust color to white
    Duplicate it 3 times rotating each 90 degrees
    more than the previous one.
    Align them to each other in a star form where the
    legs of the A are slightly touching each other.
    Group this shape, and duplicate it 3 times.
    Form another star like shape by having the points
    slightly touch each other in the center.
    Adjust height of shape to 14 in and align to the
    center
- Take the "Ooo" shape set color to C=65 M=0 Y=45 K=0
    Duplicate and rotate it 60 degrees and scale
    it 125%.
    Repeat this step adding 60 degrees to the
    previous one and scaling it 125% every time it's
    rotated.
    Rotate and scale 3 times from original
    Set the entire shape height to 2in
    Duplicate 3 times and align them to each corner.
    Duplicate 4 more times and align them in the
    center of the individual "A" shapes.

Design in our present decade cannot be thought of solely in terms of an object or product; rather, it must be considered as a *process* carried out within a nexus of particular social relations (cultural, economic, symbolic). As Clive Dilnot argues, the term "design" too often is used to denote either the final designed product or the original problem which first provoked the design activity. But the *process* of design, he claims, is where we need to locate the significance of design.[2] Dilnot wants us to pay attention to that intricate web of social structures and practices within which the designer's conscious—and unconscious—decisions are made as to which set of forms will carry what significations. He wishes us to avoid the temptation of abstracting the outcome of those design

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2 Clive Dilnot, "Design as a Socially Significant Activity: An Introduction," *Design Studies* 3:3 (July 1982): 139.

Perceiving input-output pairs,
Related by parameters,
Permits us, sometimes, to relate
An input, output and a state.
If this relation's good and stable
Then to predict we may be able,
But if this fails us—heaven forbid!
We'll be compelled to force the lid!

—Kenneth Boulding,[2] economist

Systems fool us by presenting themselves—or we fool ourselves by seeing the world—as a series of events. The daily news tells of elections, battles, political agreements, disasters, stock market booms or busts. Much of our ordinary conversation is about specific happenings at specific times and places. A team wins. A river floods. The Dow Jones Industrial Average hits 10,000. Oil is discovered. A forest is cut. Events are the outputs, moment by moment, from the black box of the system.

Events can be spectacular: crashes, assassinations, great victories, terrible tragedies. They hook our emotions. Although we've seen many thousands of them on our TV screens or the front page of the paper, each one is different enough from the last to keep us fascinated (just as we never lose our fascination with the chaotic twists and turns of the weather). It's endlessly engrossing to take in the world as a series of events, and constantly surprising, because that way of seeing the world has almost no predictive or explanatory value. Like the tip of an iceberg rising above the water, events are the most visible aspect of a larger complex—but not always the most important.

We are less likely to be surprised if we can see how events accumulate into dynamic patterns of *behavior*. The team is on a winning streak. The variance of the river is increasing, with higher floodwaters during rains

standing. When a systems thinker encounters a problem, the first thing he or she does is look for data, time graphs, the history of the system. That's because long-term behavior provides clues to the underlying system structure. And structure is the key to understanding not just *what* is happening, but *why*.

The structure of a system is its interlocking stocks, flows, and feedback loops. The diagrams with boxes and arrows (my students call them "spaghetti-and-meatball diagrams") are pictures of system structure. Structure determines what behaviors are latent in the system. A goal-seeking balancing feedback loop approaches or holds a dynamic equilibrium. A reinforcing feedback loop generates exponential growth. The two of them linked together are capable of growth, decay, or equilibrium. If they also contain delays, they may produce oscillations. If they work in periodic, rapid bursts, they may produce even more surprising behaviors.

> **System structure is the source of system behavior. System behavior reveals itself as a series of events over time.**
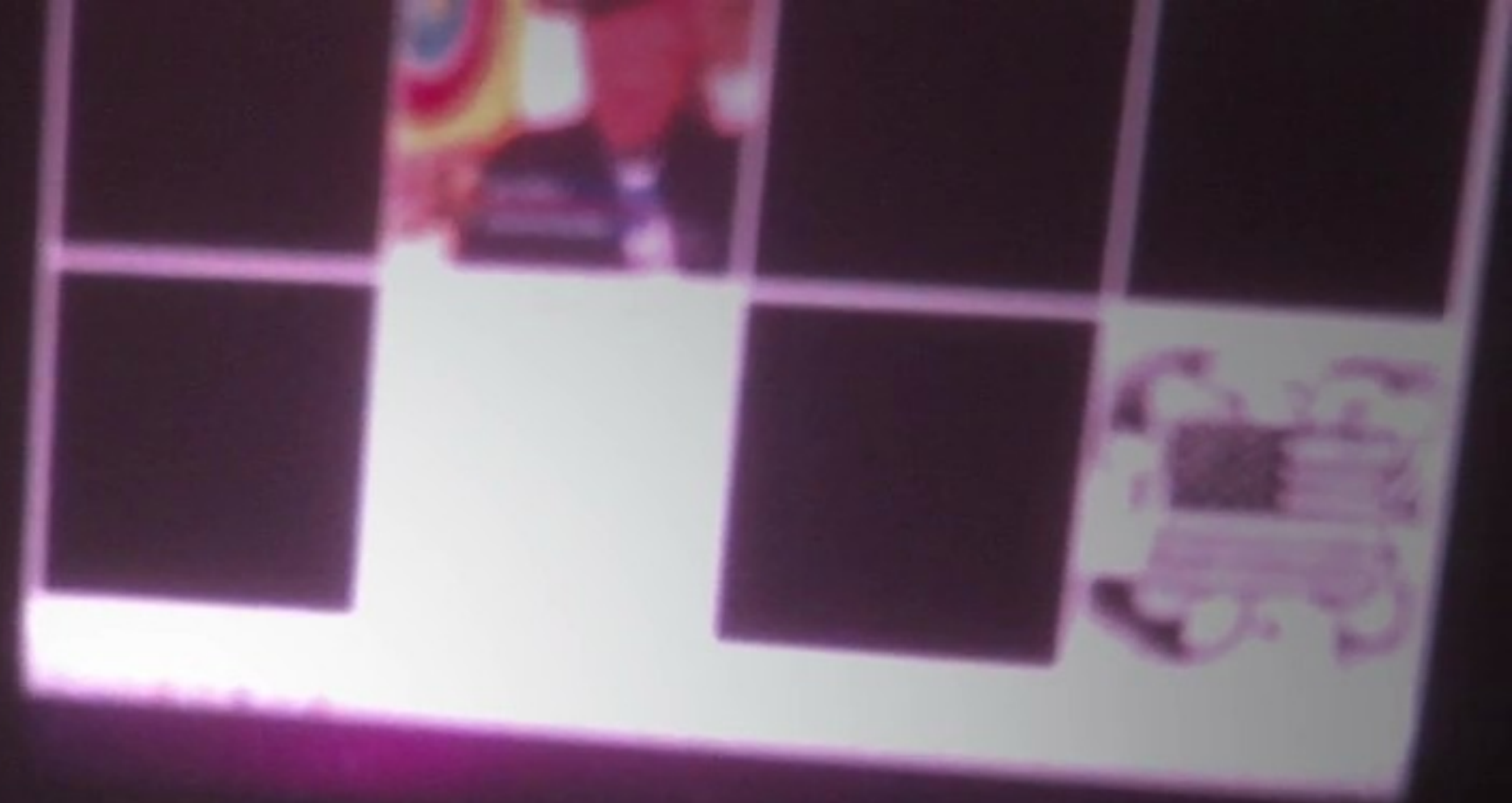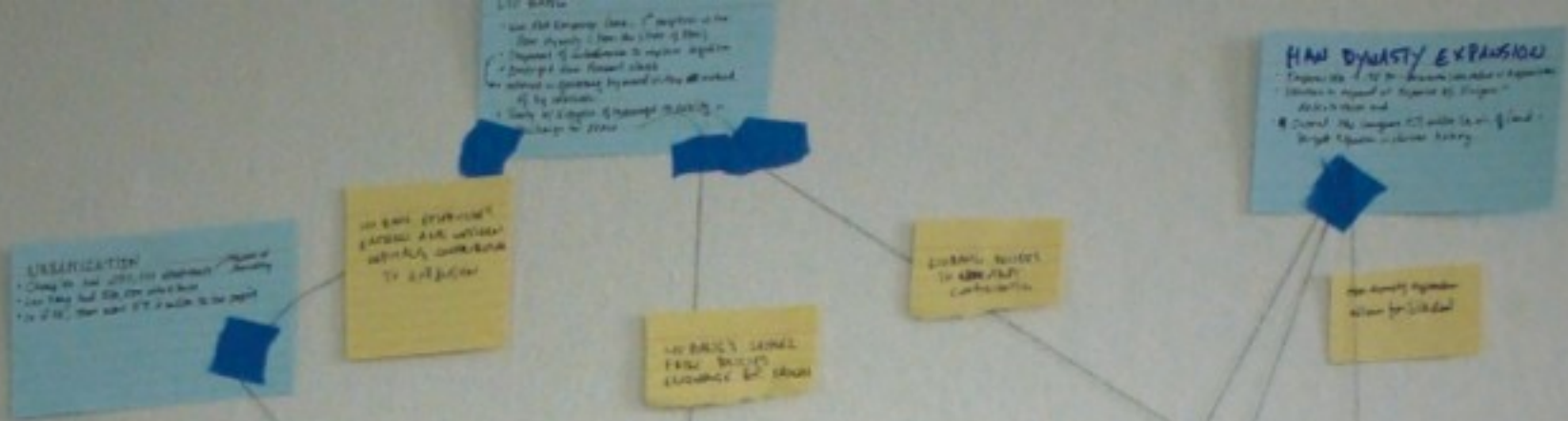
Systems thinking goes back and forth constantly between structure (diagrams of stocks, flows, and feedback) and behavior (time graphs). Systems thinkers strive to understand the connections between the hand releasing the Slinky (event) and the resulting oscillations (behavior) and the mechanical characteristics of the Slinky's helical coil (structure).

Simple examples like a Slinky make this event-behavior-structure distinction seem obvious. In fact, much analysis in the world goes no deeper than events. Listen to every night's explanation of why the stock market did what it did. Stocks went up (down) because the U.S. dollar fell (rose), or the prime interest rate rose (fell), or the Democrats won (lost), or one country invaded another (or didn't). Event-event analysis.

These explanations give you no ability to predict what will happen tomorrow. They give you no ability to change the behavior of the system—

SAMPLER.

ELEMENTS

RELATIONSHIPS

IDEOLOGY

TOWARDS A PHILOSOPHY
OF PHOTOGRAPHY

Vilém Flusser
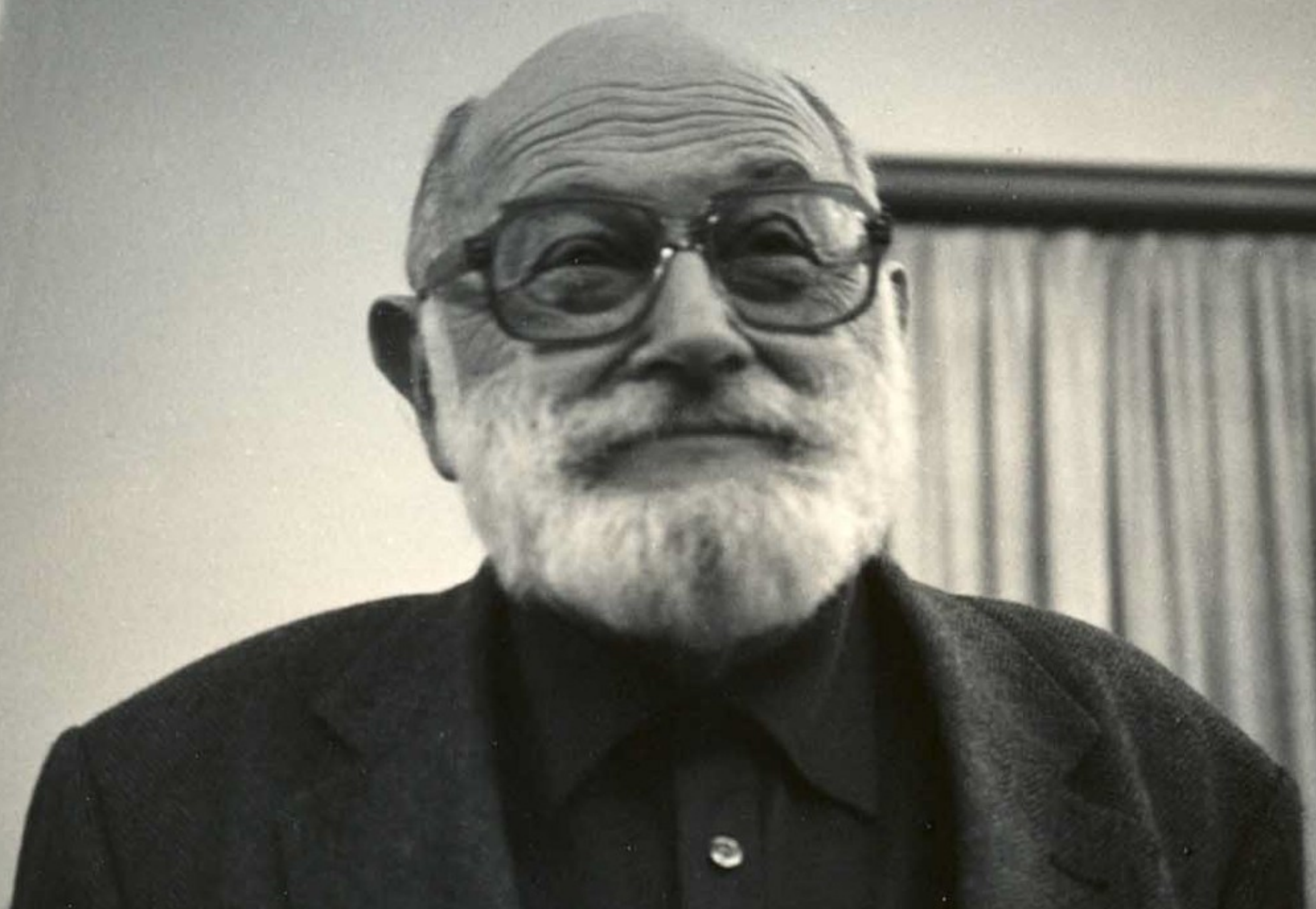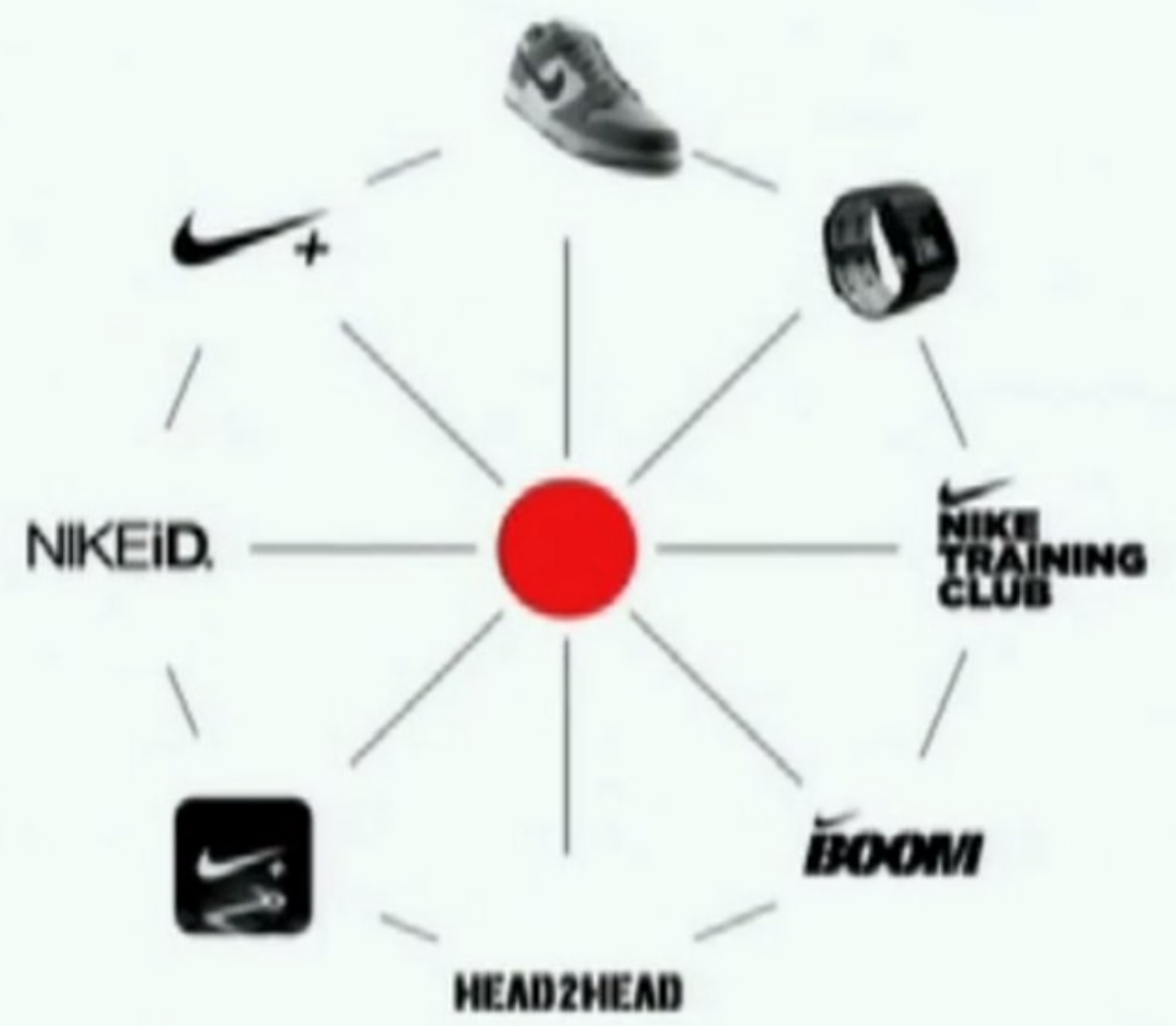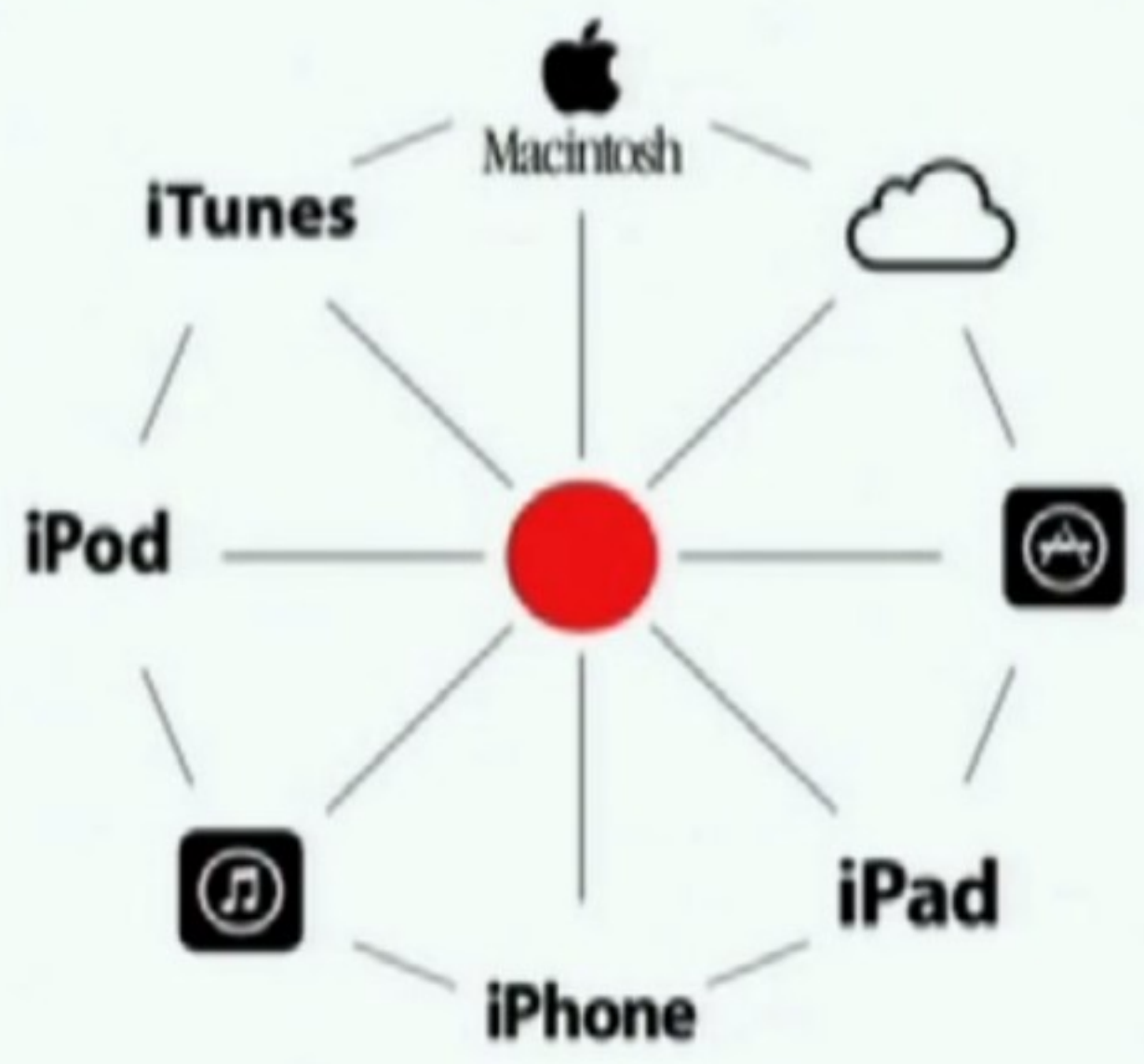
theFuture
wasHere

businessman.

security

users 消费对象(.)
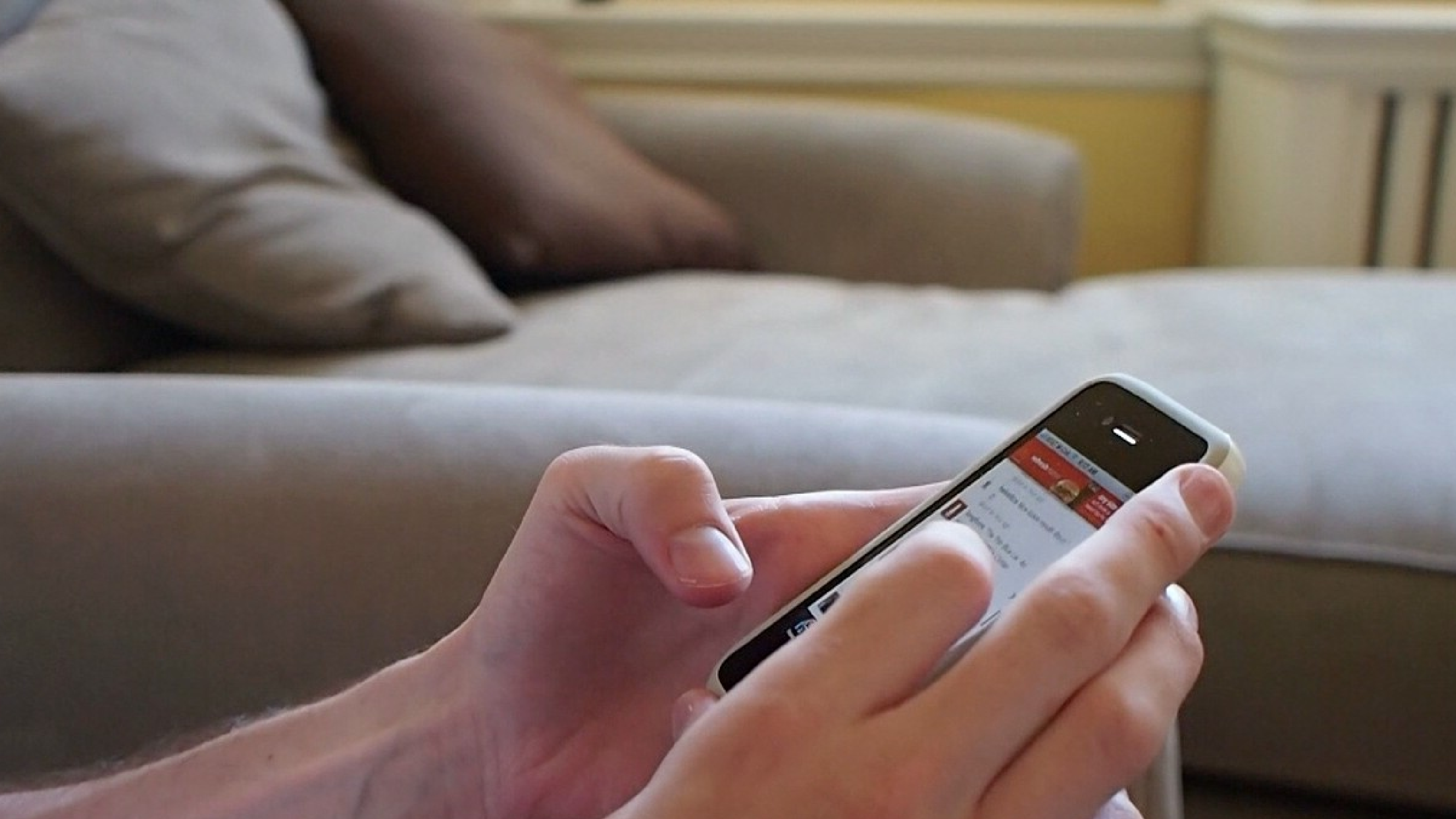
local people.

meet somebody living in the h

students (US)

TODAY

TOMORROW
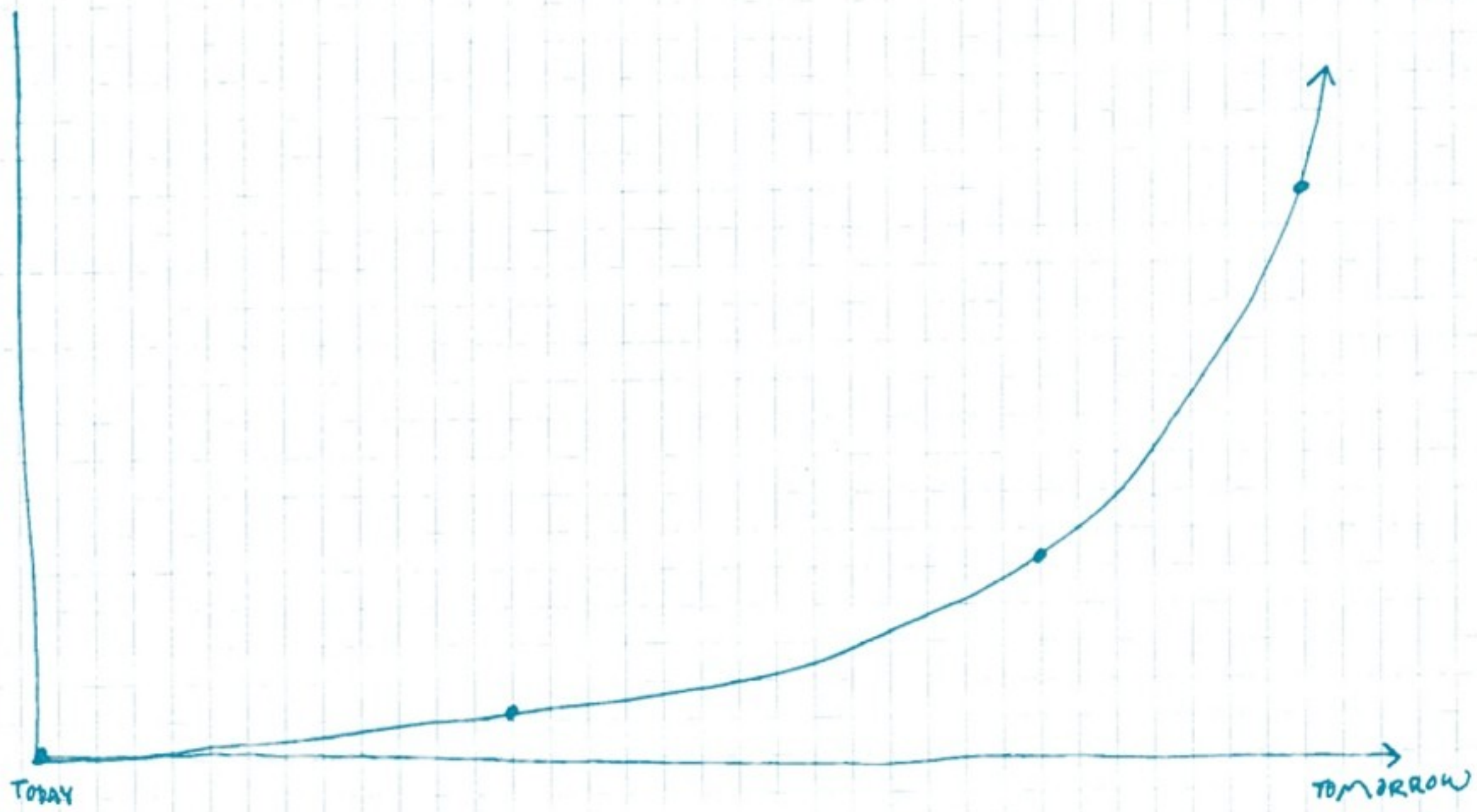
CIVILIZATION AND ITS DISCONTENTS

SIGMUND FREUD

INTRODUCTION BY CHRISTOPHER HITCHENS

feed

M. T. Anderson
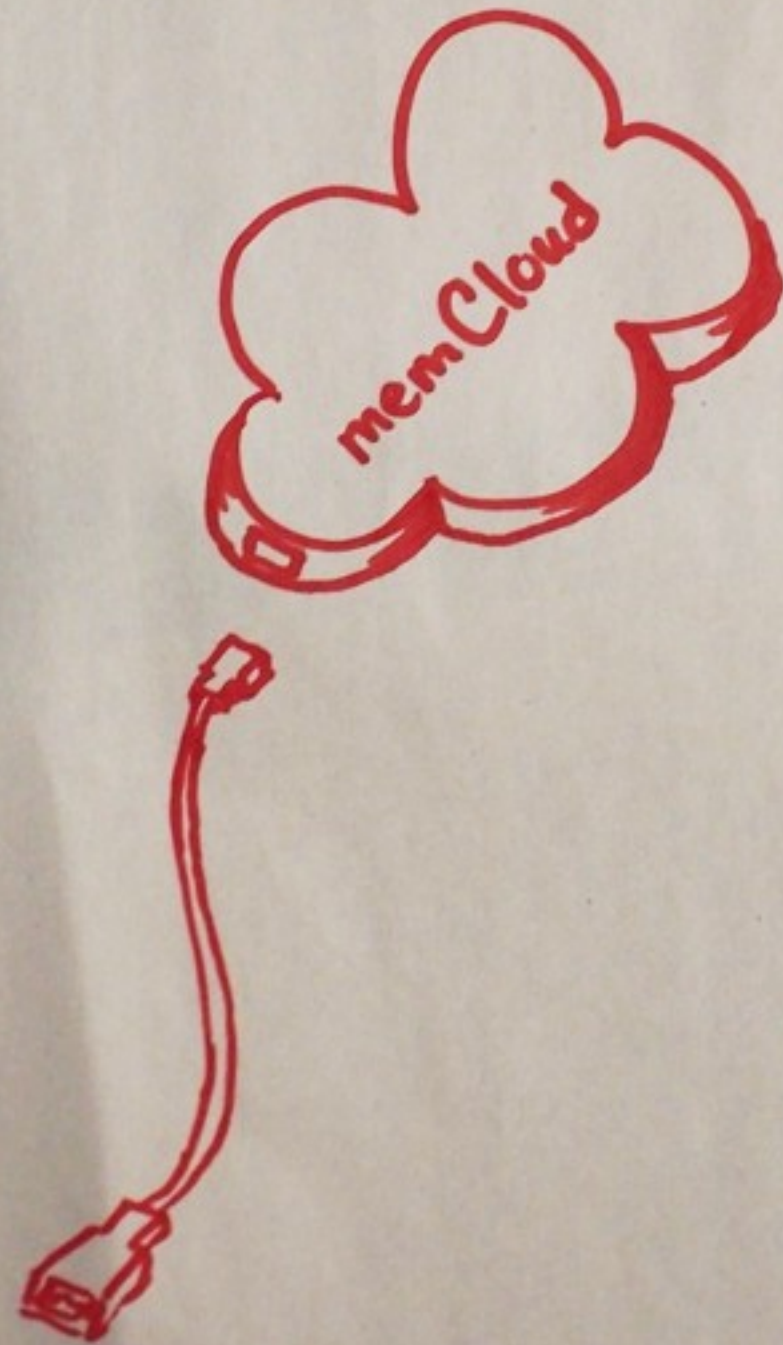
memCloud

actual size

- Download ~~...~~ via proximity
- market to consumer
- able to download manually or wireless
- "keep" or "delete" original files.
- Able to hold up to 1,000 membytes
- recognizes you through your bone marrow.
- able to add users to your memcloud

Panel 1 (CISPA)

...EVER, CISPA LEAVES AMPLE ROOM FOR

ABUSE

PRIVATE SECURITY AGENCIES — PRIVATE COMPANIES

Acting in "good faith" = maybe you did it

...her threat" information → CYBER THREAT INFO = YOUR INFO

...other companies, private agencies, and the government

MPAA | CIA | YOUR EMPLOYER

With 100% anonymity
They don't have to tell you they're doing it

& Immunity to legal action
...ke action even if someone made a ...your info

...IVACY POLICY? LOL.

...protections of user privacy will be usurped by CISPA. The bill clearly ...rmation may be shared "notwithstanding any other provision of law."

We the People

...DIRECT VIOLATION OF THE 4TH AMENDMENT

The right of the people to be secure in their persons, houses, papers, and effects, against unreasonable searches and seizures, shall not be violated, and no warrants shall issue, but upon probable cause, supported by oath or affirmation, and particularly describing the place to be searched, and the persons or things to be seized.

KATZ V. UNITED STATES (1967)
Found that the 4th amendment applies to immaterial intrusion with technology as a search.

UNITED STATES V. WARSHAK (2010)
United States Court of Appeals for the Sixth Circuit ruled that a person has a reasonable expectation of privacy in his emails and that the government violated the Fourth Amendment by compelling an internet service provider to turn over emails without first obtaining a warrant based upon probable cause.

NO SOPA-STYLE BLACKOUTS?

Sopa would have cost private companies a lot of time and money since it made them responsible to police their entire user base.

After the SOPA backlash legislators realized that going against companies with billions of...

PRIVATE COMPANIES

Panel 2 (Class Warfare 99%)

...result of the Great Recession, according to a recent study.

IT IS CLASS WARFARE, AND IT'S SIMPLE MATH
WE ARE THE 99%

Credit: Dreamstime.com

Distribution of net worth and financial wealth

Total Net Worth
- Top 1 percent
- Next 19 percent
- Bottom 80 percent

47.5% | 50.5%
33.8% | 34.6%
18.7% | 15.0%
1983 1989 1992 1998 2001 2004 2007

Financial Wealth
48.4% | 50.3%
42.9% | 42.7%
8.7% | 7.0%
1983 1989 1992 1998 2001 2004 2007

Total Net Worth
Bottom 80%: 15% of net worth
Next 10%: 12% of net worth
Next 5%: 11% of net worth
Next 4%: 27% of net worth
Top 1%: 35% of net worth
2007

Financial Wealth
Bottom 80%: 7% of financial wealth
Next 10%: 10% of financial wealth
Next 5%: 11% of financial wealth
Next 4%: 29% of financial wealth
Top 1%: 43% of financial wealth
2007

Distribution of Income

Income and Power
- Top 1 percent
- Next 19 percent
- Bottom 80 percent

48.1% | 40.1%
39.1% | 38.6%
12.8% | 21.3%
1982 1988 1991 1994 1997 2000 2003 2006

Income and Wealth by Race
(In Thousands)
White | Black | Hispanic

Median annual household income 2006
$50 | $30 | $35

Median household net worth (including home value) 2007
$143.6 | $9.3 | $9.1

Median household financial wealth (excluding home value) 2007
$43.6 | $5 | $4

Share of Wealth

Bottom 99 percent		Top 1 percent
63.3%	1922	36.7%
55.8	1929	44.2
66.7	1939	33.3
63.6	1945	36.4
70.2	1949	29.8
72.9	1953	27.1
68.8	1962	31.2
68.2	1965	31.8
65.6	1969	34.4
68.9	1972	31.1
80.1	1976	19.9
79.5	1979	20.5
75.2	1981	24.8
69.1	1983	30.9
64.3	1986	35.7
62.8	1989	37.2
61.5	1992	38.5
61.9	1995	38.1

Percentage of Wealth Held by the Top 10% of the Adult Population in Various Western Countries*

Switzerland	71.3%
United States	69.8%
Denmark	65.0%
France	61.0%
Sweden	58.6%
UK	56.0%
Canada	53.0%
Norway	50.5%
Germany	44.4%

Panel 3 (SOPA/PIPA)

...Protect IP Act (PIPA) in the Senate and t... ...stop online piracy but would censor the W... ...s. Experts agree that there are better w... ...nies to censor the Web. ...n to SOPA and PIPA. They told Congress... ...economy.

5 | 9 | 17
AOL | eBay | Google | facebook | twitter | Firefox | LinkedIn | zynga

Steve Crocker | David Dagon | Dan Kaminsky | Danny McPherson | Paul Vixie

Marc Andreessen | Mitchell Baker | Sergey Brin | Jack Dorsey | Caterina Fake | David Filo | Reid Hoffman | Chad Hurley | Brewster Kahle | Elon Musk | Craig Newmark | Pierre Omidyar | Biz Stone | Jimmy Wales | Evan Williams | Jerry Yang

...erf, one ...founding ...Internet security experts issued a whitepaper raising serious concerns about the technical approach of PIPA.

...Internet and technology companies sent an open letter opposing the bills and the risks posed to innovation and job creation.

...Internet company founders sen...an open letter opposing SOPA and PIPA.

Panel 4 (Who is Occupy Wall St?)

Who is Occupy Wall St?

2.8 Asian | 1.6 Black / African American
6.8 Hispanic / Latino
7.6 Other
81.2 White

Politics | Ethnicity | Ge...

2.4 Republican
27.4 Democrat
70.2 Independent / Other

Income
< $25,000 46.5
$25,000 - $49,999 23.3
$50,000 or Over 30.1

Job
Full-time
Part-ti...
Unemplo...
Full-ti...

Social Me...

59.9% Facebook | 20.1% Twitt...

Design... JESS...

Panel 5 (wealth distribution / Occupy)

Mean Wage of the 20% $9.99

The history of wealth distribution

The relationship between wage and productivity
- Productivity
- Compensation
- Wage

1950s 1960s 1970s 1980s 1990s 2000s

Wages and overall compensation

79% believe the gap between rich and poor in the US is too large.
71% believe that executives responsible for the GFC should be prosecuted.
68% believe the rich should pay more taxes.
81% believe things in the US have gotten seriously off track.

4 OCCUPY PROTESTS
The Occupy demonstrations are a call-to-action against global issues.

- Economic Inequality
- Corporate Greed
- Corporate Influence
- Social Inequality
- Human Rights
- Money in Politics
- Bank Bailouts
- Legal Repercussions for GFC Instigators
- Corruption

JOBS, JUSTICE, AND EDUCATION
WE ARE THE 99%

5 ACHIEVEMENTS

Global. On October 15th 'Occupy' protests were held in over 950 cities across the world.

Diversity. Individuals of all ages, races, sex, religious and political backgrounds have joined the movement.

Heartland. Over 70 US cities have hosted demonstrations, including many in middle America.

Conversation. This mass global reaction has shifted national dialogue, and become a cultural phenomenon.

6 IN THE MEDIA
Protest demands have met with both failure and criticism by individuals in the media.

The proposed list of demands for the US Congress

OCCUPY DEMANDS

1. Reinstate the separation between investment banking and commercial banking, and reinstate the prohibition of conflict of interest.
2. Use Congressional oversight to ensure the investigation and prosecution of executives responsible for the Global Financial Crisis.
3. Remove the legislation that allows unlimited corporate funding in elections.
4. Pass new laws on taxation that closes corporate loop holes and prohibits off shore accounts.
5. Revamp the Securities and Exchange Commission and ensure staff protect the integrity of the marketplace for both citizens and investors.
6. Pass new laws to limit the influence of lobbyists and their legislation.
7. Update Revolving Door Legislation to eliminate regulators being employed by clients and corporations that they worked with previously.
8. Eliminate the Personhood legal status of corporations.

Criticisms from the press
- Noble, but fractured movement
- "Ambassadors" are inappropriately dressed and can't be taken seriously
- No large-scale civil agitation
- No demand for particular immediate action
- Opportunistic protest against everything from removing the combustion engine to just 'creating a spectacle'
- Lack of cohesion and an apparent wish to pantomime progressivism rather than practice it knowledgeably

7 SOCIAL STATISTICS
What's happening?
@OccupyWallSt
Liberty Plaza, NYC — occupywallst.org

4,769 Tweets | 443 Following | 92,354 Followers | 2,152 Listed

Trends
#occupywallstreet, #ows, #occupywallst #OccupyLSX, #OccupyLondon, #obx, #OccupyMARINES, #OpWallStreet, #OccupyCh, #Solidarity, #OccupyOakland

Like | Occupy Wall St.
272,417 like this
135,699 talking about this

We are the 99 percent on Tumblr

163 pages on tumblr

Why Occupy Wall Street will fail

EVEN IF THE WORLD WERE TO END TOMORROW I'D STILL PLANT A TREE TODAY

Panel 6 (Website Blocked)

...allow the US Government to block Americans from visiting websites

WEBSITE BLOCKED

HOW DOES THE BLOCKING WORK?

DNS BLOCKING
The same website censorship method used by CHINA, IRAN, and SYRIA.

DNS BLOCKING

The US sets precedents for Internet law around the globe which means censorship could become the new standard.

WHEN DOES A SITE GET BLOCKED?

"This page has infringing links. This is a rogue website."
"One of my users posted that. Help!"
"You didn't do enough to stop it"

A few infringing links are enough to block a site full of legal material, and sites become liable for user-posted content.

A WEBSITE OPERATOR COULD FACE

US WEB TRAFFIC | AD-REVENUE | SEARCH TRAFFIC

As a result
Sites' self-censorship increases dramatically. Fewer startups launch, due to riskier legal climate.

WHAT SITES ARE AT GREATEST RISK
Anywhere people are expressing themselves or finding content: social networks, hosting sites, personal pages

Self-Censorship if the bill passes | Before SOPA | Today's Self-Censorship

Self-Censorship on websites | New startups being launched

HOW DOES THIS AFFECT:

ANY AMERICAN USER
- Sites you visit daily could be blocked
- Email providers may be forced to censor certain links you send or receive*

*You doubt they'll accidentally remove legitimate links, either. If you're searching for infringing links

ANTI-CENSORSHIP INITIATIVES
- TOR website
- Alternate DNS
- Tools used by democracy activists in China and Iran will be blocked in the US

COULD THIS POSSIBLY BECOME THE LAW?

Yes. The following two bills have a lot of support in congress, thanks to numerous lobbies.

CO-SPONSORS:

SENATE: PROTECT IP ACT
Bill sponsor PATRICK LEAHY

HOUSE: STOP ONLINE PIRACY ACT
Co-Bill sponsor LAMAR SMITH
CO-SPONSORS:

Panel 7 (Politicians back away)

...POLITICIANS BACK AWAY

The day after the protest,
14 SENATORS ISSUED STATEMENTS AGAINST THE BILL

SEN. ORRIN HATCH (R-Utah) | SEN. JOHN BOOZMAN (R-Arkansas)
SEN. JIM RISCH (R-Idaho) | SEN. KELLY AYOTTE (R-New Hampshire) | SEN. JIM INHOFE (R-Oklahoma)
SEN. JIM DEMINT (R-South Carolina) | SEN. DAVID VITTER (R-Louisiana) | SEN. PAT ROBERTS (R-Kansas)
SEN. JACK REED (D-Rhode Island) | SEN. BERNIE SANDERS (D-Vermont) | SEN. PATTY...

3 days after the blackout, SOPA sponsor...
TABLED...

This also came after Twitter followers found
THE SOPA SPONSOR'S CAMPAIGN SITE VIOLATED SOPA

THE UNCREDITED LANDSCAPE PHOTO behind his headshot was lifted from artist D.J. Schulte's Flickr

Sen. Harry Reid also announced the
POSTPONEMENT OF SOPA'S HATED SISTER B...

EVEN ON ICE, SO... CONCERNS ABOUT CENS... FREEDOM O...

GOOGLE FOUNDER S...
"While I support [...]
infringement (which I don't...
would accomplish). I...
lawmakers would contempl...
that would put us on a...
OPPRESSIVE NATION...

PICTURE A SOPA-ZAPPED...

Sites accused of copyright infringement would be subject to
GOVERNMENT-EXECUTED MEASURES

$ | SEARCH | www...
Shut down of site revenue | Denial of site in search results | ...

All of this could happen
BEFORE A COURT TRIAL

Time to file a counter-notice to prevent this from happening after accusation:
5 DAYS

Maximum penalty for st... unauthorized content: 5...

5
REALISTICALLY, WHEN WILL CONTENT REGULATORS CATCH AN EXPANDING WEB?

Consider the years it took modern medias to reach
AUDIENCES OF 50 MILLION

of its life: everything in its place and a place for everything. Label it information design and it looks serious. Number it and it looks scientific.

But it's a false authority, particularly because we buy into the form so unquestioningly. Perhaps this is why so much information design looks alike, ratified by an alarmingly robust strain of Swiss modernism that obliterates the chance for a more expressive design idiom, a more content-driven form. It's also annoyingly ahistorical -- unconcerned with earlier sources and ignorant of alternative models that would, arguably, introduce a more original point-of-view.

Information design has become its own legitimizing force, regardless of its content or context. It's modernism run amok: form *masquerading* as content.

0.004. Panaceas

0.002. Faux Science

"Science," wrote Heidegger, "is one of the most essential phenomena of the modern age." It's hygienic and objective, rational and finite, grounded in numerical certainty and cosmological reason. Science is all about clarity and specificity and rationalism, about charting DNA strands and analyzing chemical compounds, about physical density and gravitational pull and a reality that is anything but virtual. And in a world in which design has not only gone virtual but, in the process,
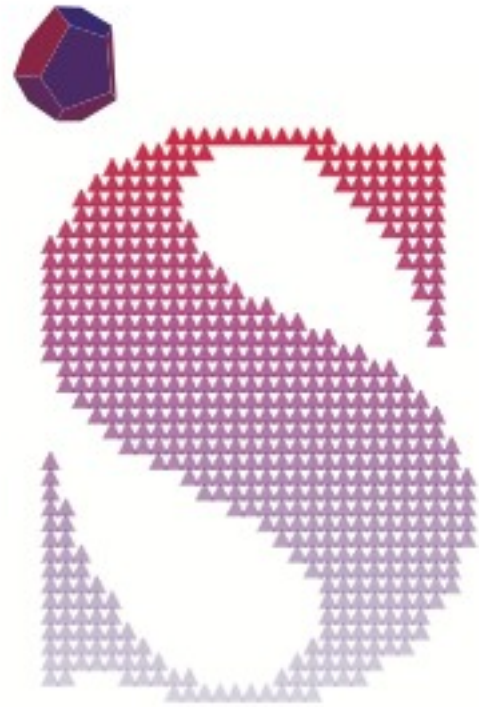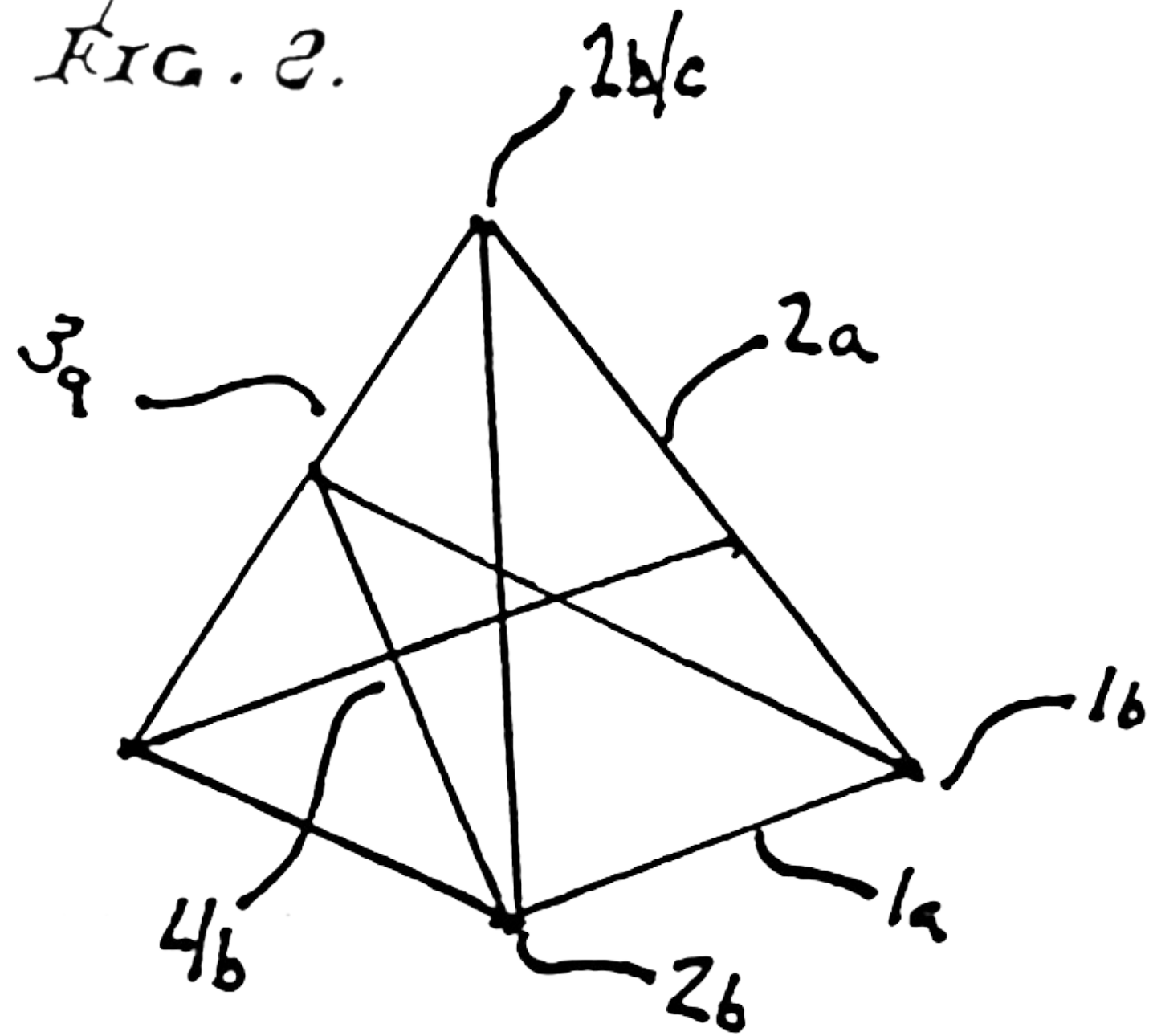
MIT Institute for Universal Knowledge & Understanding

FIG. 2.

TANGIBLE CRITICALITY IS CENTRAL TO THE CURRICULUM OF LIBERATORY PRAXIS

DEFEAT HEGEMONIC IDEOLOGIES EMBEDDED IN SYSTEMS

TAKK.