

Shaping Things

Associate Professor Donald J. Patterson
CS 195 Senior Seminar



“New forms of design and manufacture are appearing that lack historical precedent”

“Our current scale/methods of manufacturing and consumption are not sustainable”

Beijing US Embassy Air Pollution: Real-time Air Quality Index (AQI)

BEIJING US EMBASSY
北京美国大使馆

CHAOYANG
朝阳农展馆

EAST FOURTH RING
东四环北路

DONGCHENG DONGSI
东城东四

CHAOYANG OLYMPIC
朝阳奥体中心

QIANMEN E ST,
前门东大街



LOCATE THE
NEAREST CITY

East Fourth Ring Road, Beijing AQI: : East Fourth Ring Roa

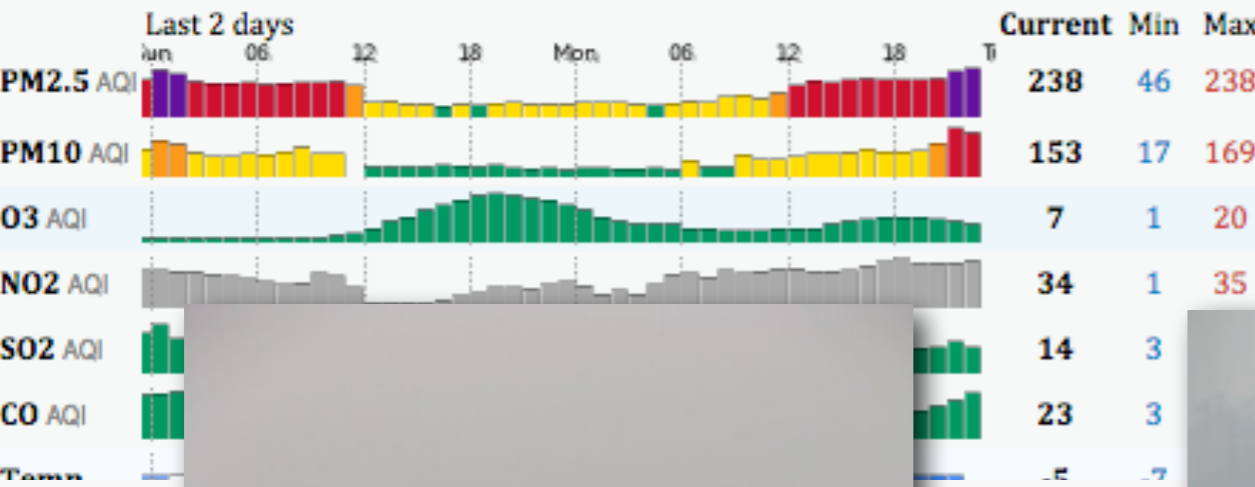


238

Very Unhealthy

Updated on Monday 23:00

Temp: -5°C



AQI

0 - 50

51 - 100

101 - 150

151 - 200

201 - 300

300+

Hazardous

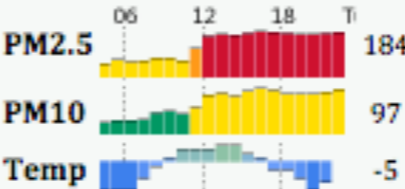
Health alert: everyone may experience more serious health effects

Chaoyang Agricultura

184

Unhealthy

Updated on Monday 23:00



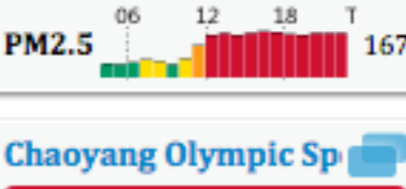
East Fourth Ring Roa

Dongcheng Dongs Air

167

Unhealthy

Updated on Monday 23:00



Chaoyang Olympic Sp

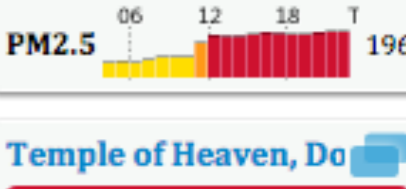
196

Qianmen E St, Dongch

196

Unhealthy

Updated on Monday 23:00



Temple of Heaven, Do

168

Healthy

Monday 22:00

12 18



2013-08-12_07:19:22
@声闻于天@邹毅的邹



2013-08-11_07:06:14
@声闻于天@邹毅的邹



2013-08-10_07:00:57
@声闻于天@邹毅的邹



2013-08-09_06:53:18
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2013-08-07_07:19:05
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2013-08-06_07:02:03
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2013-08-05_07:26:56
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2013-08-04_07:07:38
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San Pedro Bay Ports Clean Air Action Plan



The Port of
LONG BEACH

[Map View](#) [Current Data](#) [Yesterday's Data](#) [Daily Highs](#) [Historical Data](#) [Reports](#) [Glossary](#)

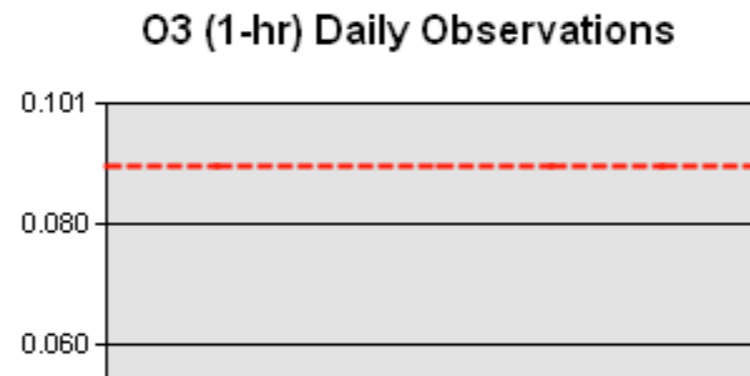
[CAAP Home](#) > [Air Quality](#) > **Current Data** - real-time air quality information

All data is preliminary

Select A Site:

Observation To Graph:

Monitored Parameter	Averaging Period	Current Value	Units	State Standard	Federal Standard
O ₃	1-hr	0.001	ppm	0.09	-
O ₃	8-hr	0.001	ppm	0.07	0.08
PM ₁₀	24-hr	40.5	µg/m ³	50	150
PM _{2.5}	24-hr	15.5	µg/m ³	-	35



58

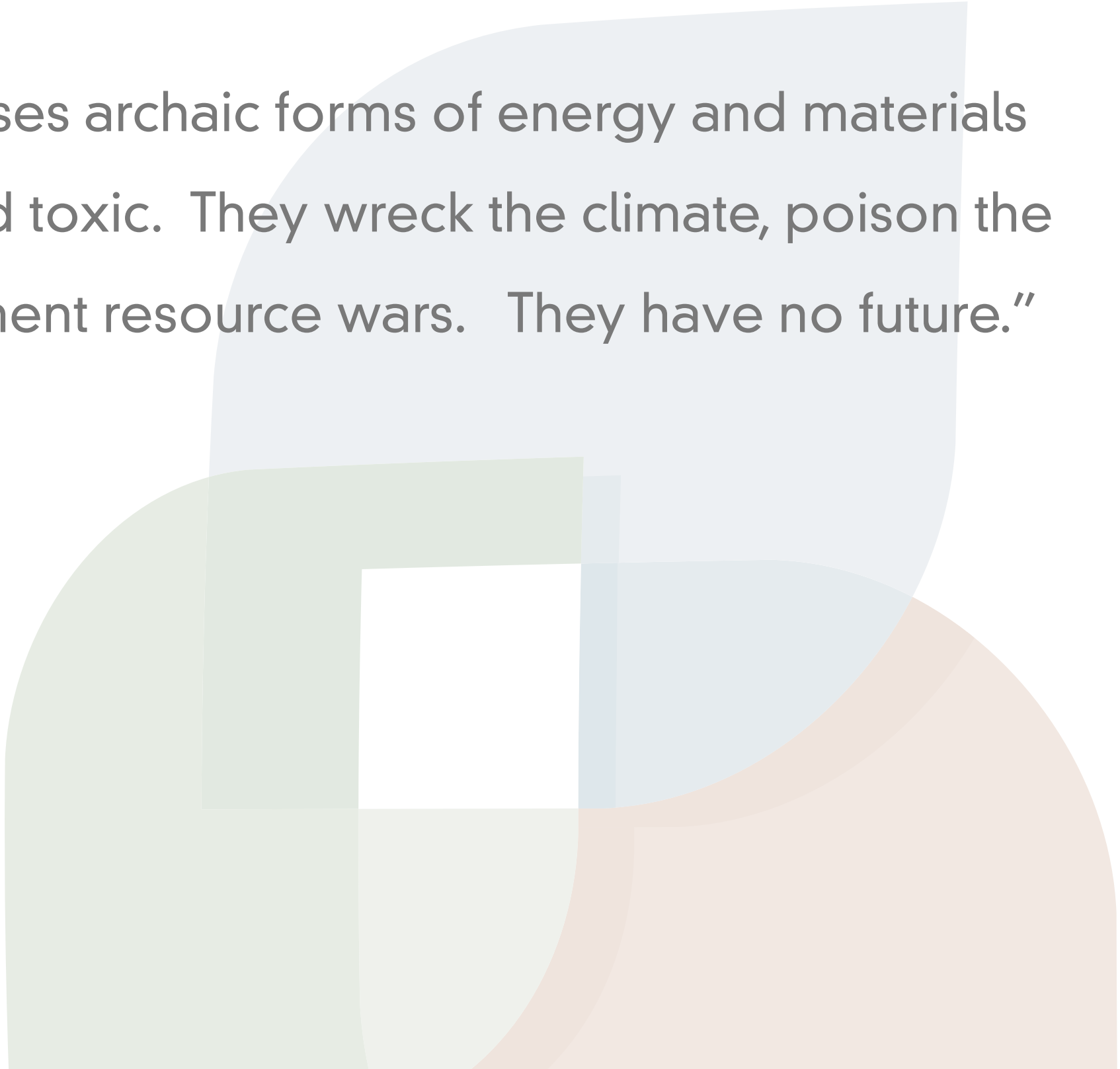
AQI	Air Pollution Level	Health Implications
0 - 50	Good	Air quality is considered satisfactory, and air pollution poses little or no risk
51 -100	Moderate	Air quality is acceptable; however, for some pollutants there may be a moderate health concern for a very small number of people who are unusually sensitive to air pollution.
101-150	Unhealthy for Sensitive Groups	Members of sensitive groups may experience health effects. The general public is not likely to be affected.
151-200	Unhealthy	Everyone may begin to experience health effects; members of sensitive groups may experience more serious health effects
201-300	Very Unhealthy	Health warnings of emergency conditions. The entire population is more likely to be affected.
300+	Hazardous	Health alert: everyone may experience more serious health effects

* Indicates reading occurred during instrument calibration

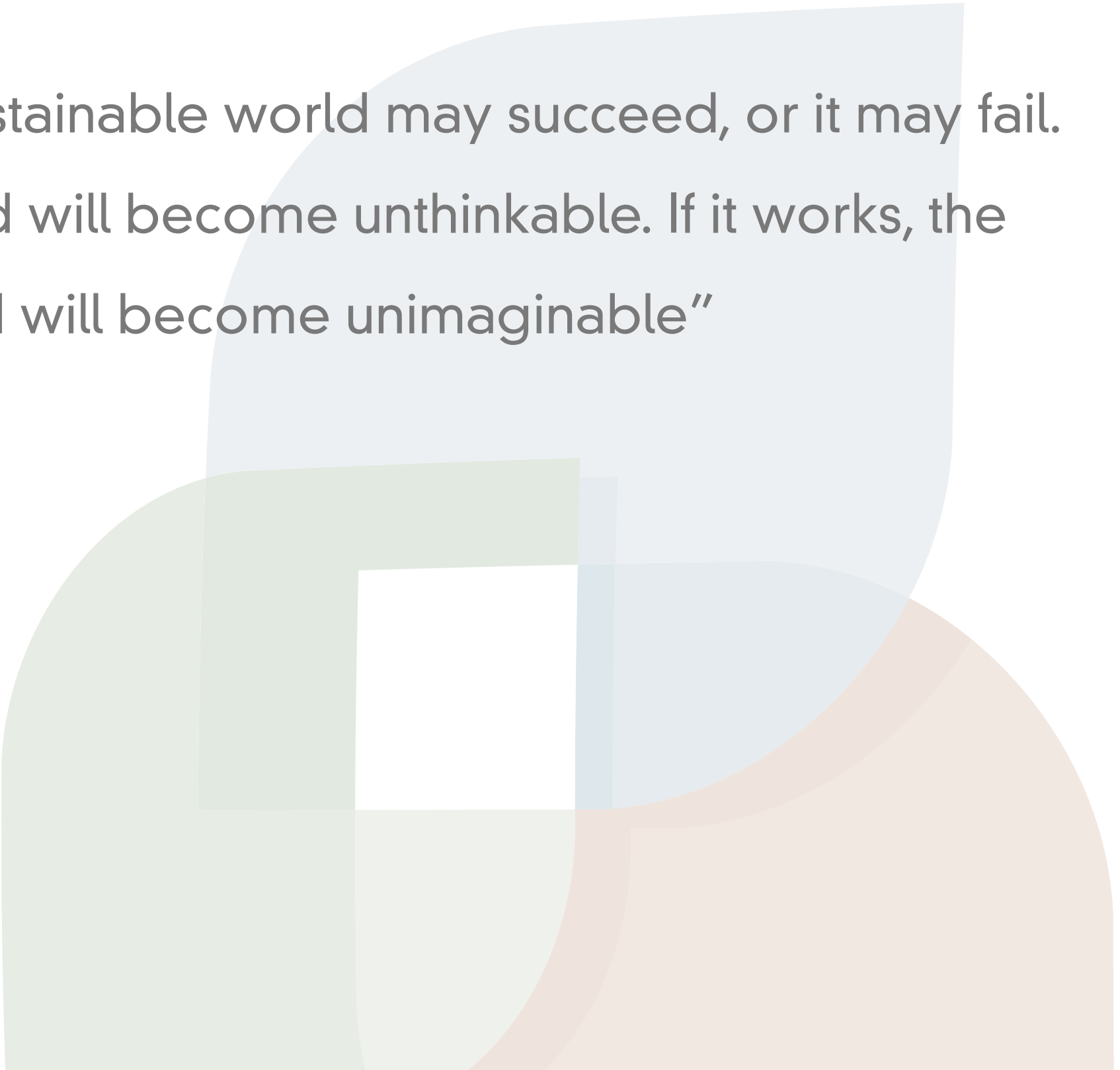
“Effective intervention takes place not in the human, not in the object, but in the realm of the technosocial”

Human Computer Interaction duality

“The status quo uses archaic forms of energy and materials which are finite and toxic. They wreck the climate, poison the populace and foment resource wars. They have no future.”



“The quest for a sustainable world may succeed, or it may fail.
If it fails, the world will become unthinkable. If it works, the
world will become unimaginable”



What are Sterling's technosocial epochs?



Ch 2: Tomorrow Composts Today

	OBJECT	TECHNOSOCIAL EPOCHS	PEOPLE
LINE OF EMPIRE	ARTIFACT		HUNTERS AND FARMERS
LINE OF NO-RETURN	MACHINE		CUSTOMERS
	PRODUCT		CONSUMERS
BOX OF GMO CORN MONSANTO WHEAT	GIZMOS		END-USER
WORDAGE CLOUD-COMPUTING? DIGITAL MUSIC MEDICAL HISTORY PRINT-OUT	SPINE [WINE]		WRANGERS
DOWNED FROM 3D → BUILT → 3D model DATA → OBJECT → REPRESENTS	BIOT		

What separates epochs?

“We know that this revolution has become the new status quo when even the fiercest proponents of the earlier technoculture cannot physically overwhelm and defeat the new one”

“It is important to explicitly acknowledge the downsides of any technological transformation”

“Tomorrow composts today”

“What can you no longer earn a living without?”

“What technological feature would a country be completely conquerable if they lost it?”

Ch 3: Old wine in new bottles



Grifone
1967 Toscana 2000

Toscana · Italy



TYPE

Red



GRAPES

Shiraz/Syrah, Cabernet
Sauvignon, Sangiovese

ADD TO MY WINES +

ADD REVIEW +

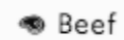
PLACES SELLING THIS WINE



Trader Joe's

\$ 6

FOODPAIRING



Beef



Lamb



Spicy food



Mature and hard cheese

SERVING TIPS

We recommend serving red wines at 15°C (59°F). This can be achieved by opening the wine and putting it into the fridge 15 min. before serving it.

AVG. RATING

2.9



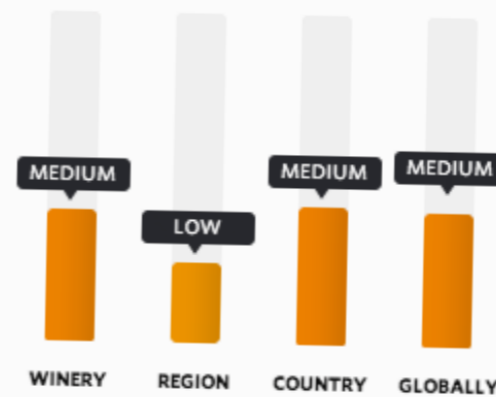
8 RATINGS

AVG. PRICE

6

USD

WINE'S RANK WITHIN



1,477,975th of 2,494,741 wines Globally

RATE THIS WINE


0.0



SHARE THIS WINE



Designers in a GIZMO world must design for
cognitive load and opportunity cost



Ch 3: Old wine in new bottles

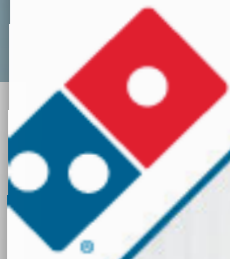
"...in an information-rich world, the wealth of information means a dearth of something else: a scarcity of whatever it is that information consumes. What information consumes is rather obvious: it consumes the attention of its recipients. Hence a wealth of information creates a poverty of attention and a need to allocate that attention efficiently among the overabundance of information sources that might consume it" (Simon 1971, p. 40-41).

“Everyone can’t be a designer there’s not enough time in the world for people to sacrifice infinite amounts of opportunity and cognition.

This means that in a SPIME world designers must design not just for objects or for people but for the technosocial interactions that unite people and objects.”

“Metrics make things visible”

“Spimes begin and end as data”

[ORDER ONLINE](#)[MENU](#)[COUPONS](#)[LOCATIONS](#)[TRACKER](#)[ESPAÑOL](#)[GIFT CARDS](#)[SIGN IN](#) ▶ Don't have a Pizza Profile? [CREATE ONE](#) ▶

MASTER THE ART OF MIXING & MATCHING

Medium 2-Topping Pizzas*

Stuffed Cheesy Breads

Pastas**

8-Piece Chicken (boneless or wings)

Oven Baked Sandwiches

Specialty Chicken

Two-item minimum. *Handmade Pan Pizzas and **Bread bowls may be extra.

CHOOSE ANY 2 OR MORE FOR

\$5⁹⁹
EACH

ORDER NOW

Monday ~~THRU~~ Thursday CARRYOUT DEAL

LARGE \$**7⁹⁹**
3-TOPPING
PIZZAS EACH

ORDER NOW

Carryout
Only



St. Jude MEAL DEAL



1 Med 1-Top Pizza
1 Med 1-Top Pan Pizza
16-Piece Bread Bites
2-Liter Coca-Cola®
\$1 Donation

\$19⁹⁹

Includes \$1 Donation

ORDER NOW

READY TO ORDER? SPEAK UP

THE DOMINO'S APP NOW HAS VOICE ORDERING



AN EASIER, HANDS FREE-ER WAY TO ORDER.
AVAILABLE ON iPhone® AND Android.™

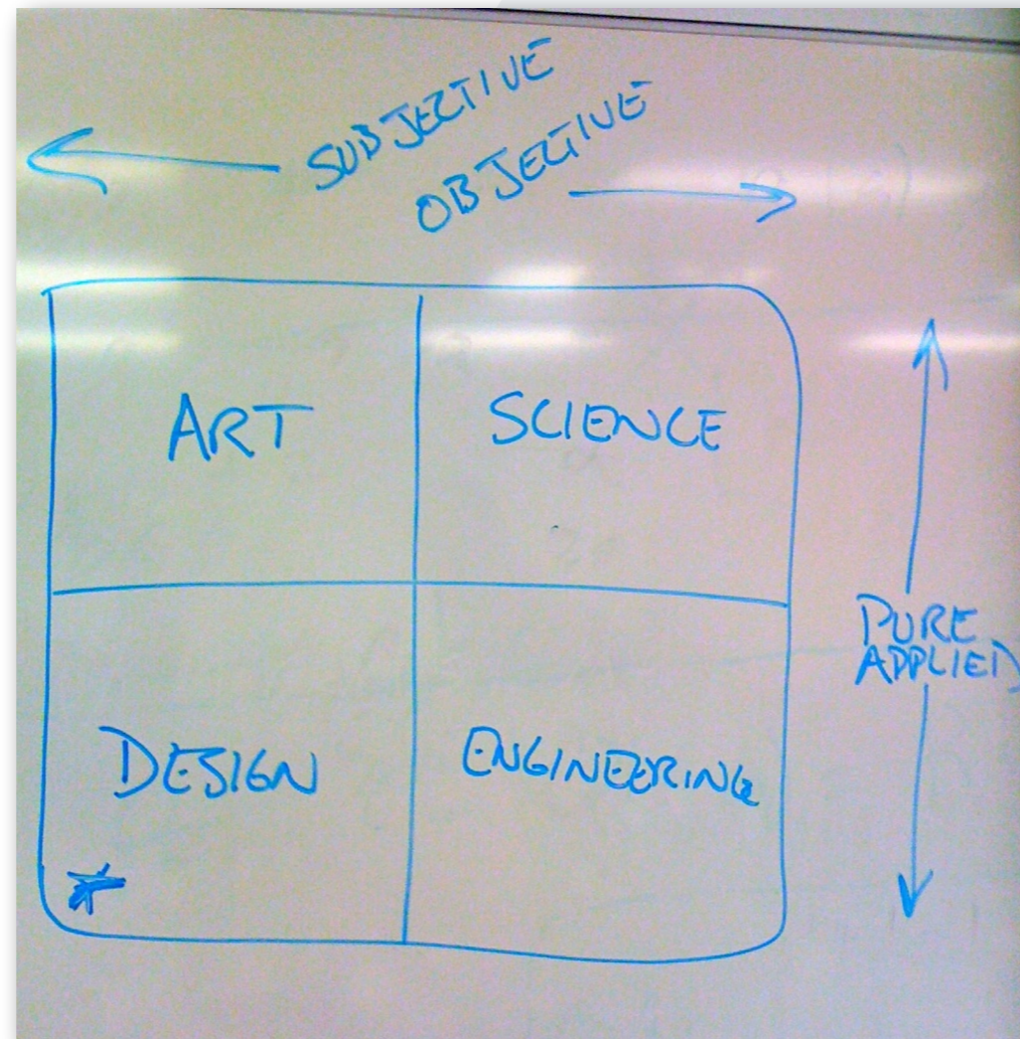
GET THE APP

“Effective design helps Wranglers to Wrangle better.”

An abstract graphic design featuring three large, overlapping, rounded rectangular shapes. The top shape is light blue, the bottom-left shape is light green, and the bottom-right shape is light orange. These shapes overlap in the center, creating a white square area. The background is a light gray gradient.

Ch 4: The Personal is Historical

“Design is not science”



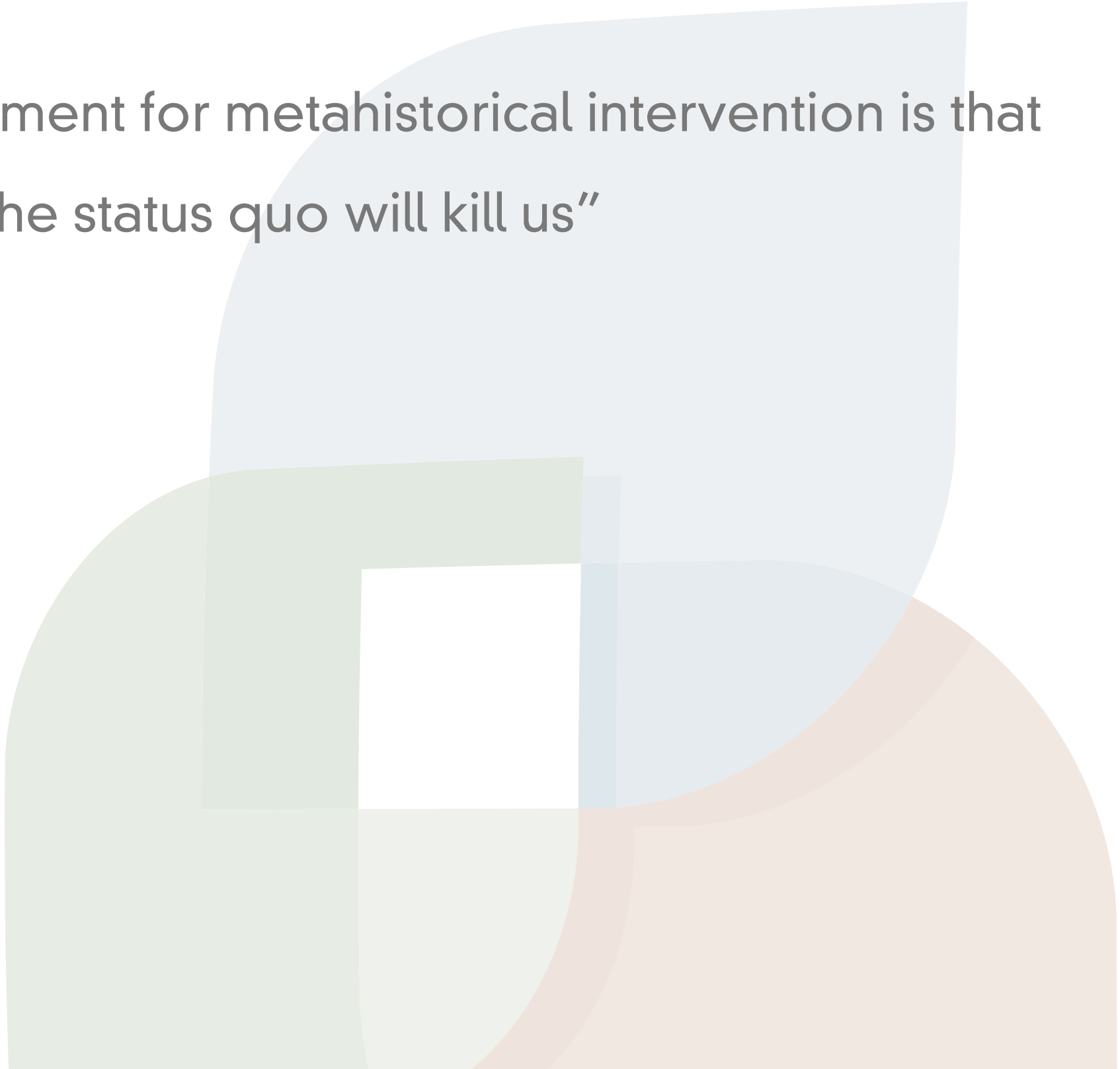
“How do people know what to expect from their things?”



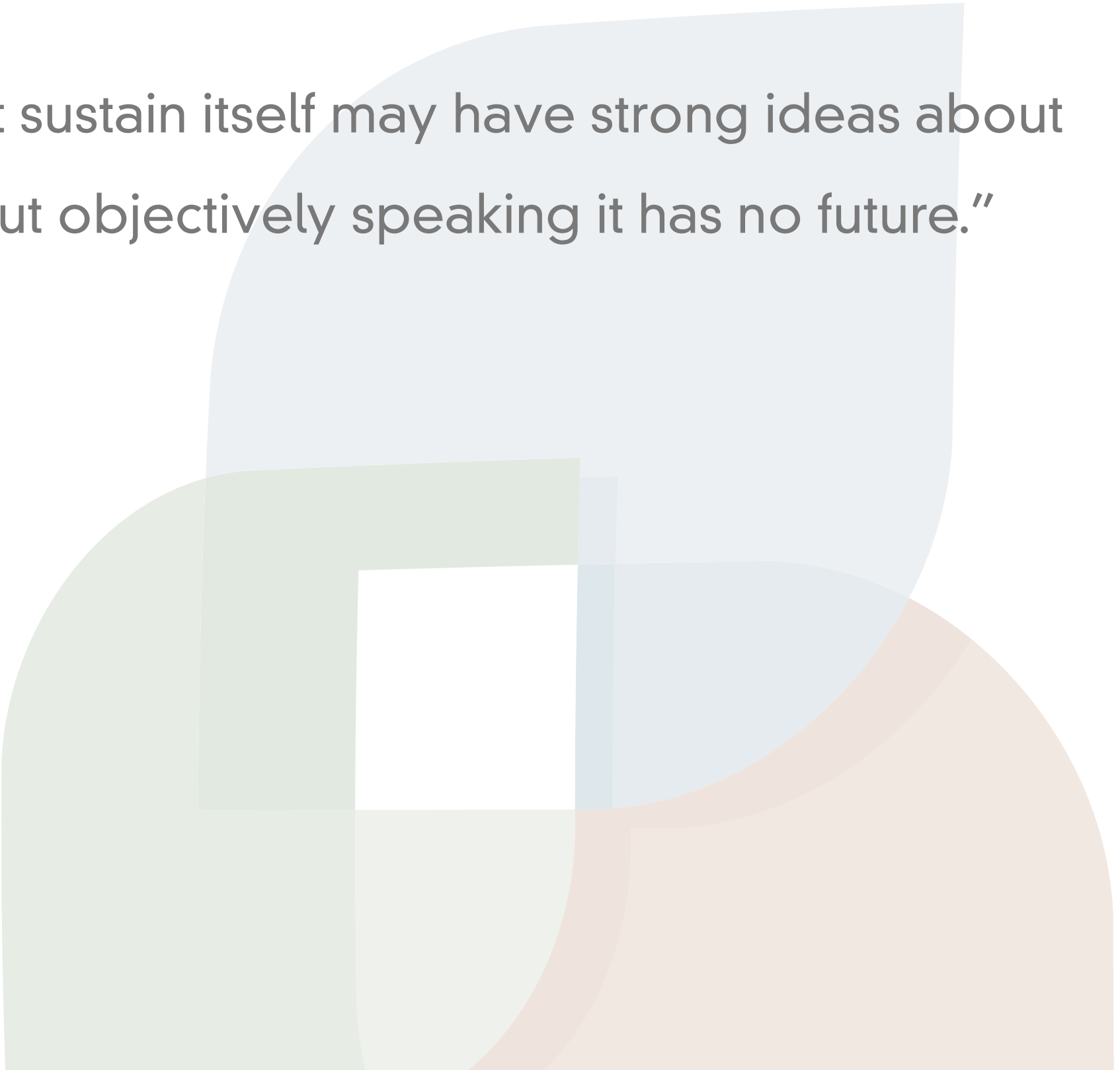
“metahistory is the ultimate determinant of the shape of things”



“The premier argument for metahistorical intervention is that
the status quo will kill us”



“A society that can’t sustain itself may have strong ideas about its metahistory, but objectively speaking it has no future.”



Ch 5: MetaHistory

“Nanobuds” Could Turn Almost Any Surface Into a Touch Sensor

Stretchy, conductive films made of novel nanobuds could bring touch sensors to more surfaces.

Your Online Journal, Built from Heartbeats, Sleep Patterns, and Hikes

Material Cools Buildings by Sending Heat into Space

Discarded Laptop Batteries Keep the Lights On

WHAT [MATTERS]



Apple Watches for everybody at BuzzFeed



Is the Darknet a glimpse into the web of the future?



Deciphering the conductor's code



Google's Intelligence Designer

The man behind a startup acquired by Google for \$628 million plans to build a revolutionary new artificial intelligence.

NEW SINCE LAST VISIT 25

01. Coding is cool as White House unveils computer science school initiative
02. Apple manager gets year in jail, \$4.5m fine for selling industry secrets
03. 19 hospitalized at furry convention due to "seemingly intentional" gas leak
04. Tor privacy service used in a majority of online bank heists, report says
05. Mysterious politician steps in to buy Bitcoin startup HashFast's assets

With new "inks" containing semiconductors, researchers have been able to print LEDs for the first time.

Playful new cooking based on traditional methods and weird ingredients will supplant the industrial techniques that dominate...

CONTINUE →

Microsoft rings in 12 days of holiday deals with \$79 Toshiba tablet

⌚ 3 hours ago

Samsung SSD 850 Evo solid-state drive is a keeper

⌚ 4 hours ago

Get a Quirky Converge charging station for \$28

⌚ 4 hours ago

Top performance for a low price

⌚ 2 hours ago

Samsung SSD 850 Evo (pictures)

⌚ 2 hours ago

New Nissan Murano takes concept styling to the road

⌚ 3 hours ago

Which Canon dSLR?

⌚ 1 minute ago

Uber banned from India's capital after alleged rape

⌚ 36 minutes ago

Ex-Apple exec going to jail for kickback scheme

⌚ 1 hour ago

A startup wants to make it easier for people with epilepsy to detect seizures and let others know when they need help.

TOP POST: Sharp Aquos Crystal: A \$240 smartphone that out-designs most flagships

“The ability to make small mistakes in a hurry is a vital accomplishment for any society that intends to be sustainable”

“A society with spimes has design capabilities closed to societies without them.”

Sterling argues for a techno-social intervention in our
metahistory so we don't kill ourselves



“A SYNCHRONIC SOCIETY synchronizes multiple histories. In a SYNCHRONIC SOCIETY, every object worthy of human or machine consideration generates a small history. These histories are not dusty archives locked away on ink and paper. They are informational resources, manipulable in real time.”

“The values of a synchronic society are temporalistic:
Do we gain more time by doing this or less time?”



“Temporalistic thinking is a moral worldview”

“A society with declining life expectancy is clearly retrogressive. A society with a high infant mortality rate is maladjusted. A society riddled by plagues, diseases, resistant and emergent microbes and environmental illness is decadent.”

“We are in trouble as a culture, because we lack firm ideas of where we are in time and what we might do to ensure ourselves a future. We’re also in trouble for technical and practical reasons: because we design, build and use dysfunctional hardware”

Ch 6: A Synchronic Society



Nokia ReMade



“Animals can’t design. Apes will fling objects, but humans will throw objects, practice throwing them and refine the grain of the material so that the thrown object throws better.... Humans get far better at interacting with objects than any animal can ever manage; and since humans are also capable of abstract analysis; they are also better at getting better. Humans have technosociety.”

“Entropy requires no maintenance”

“Pollution is not subject to consumption”

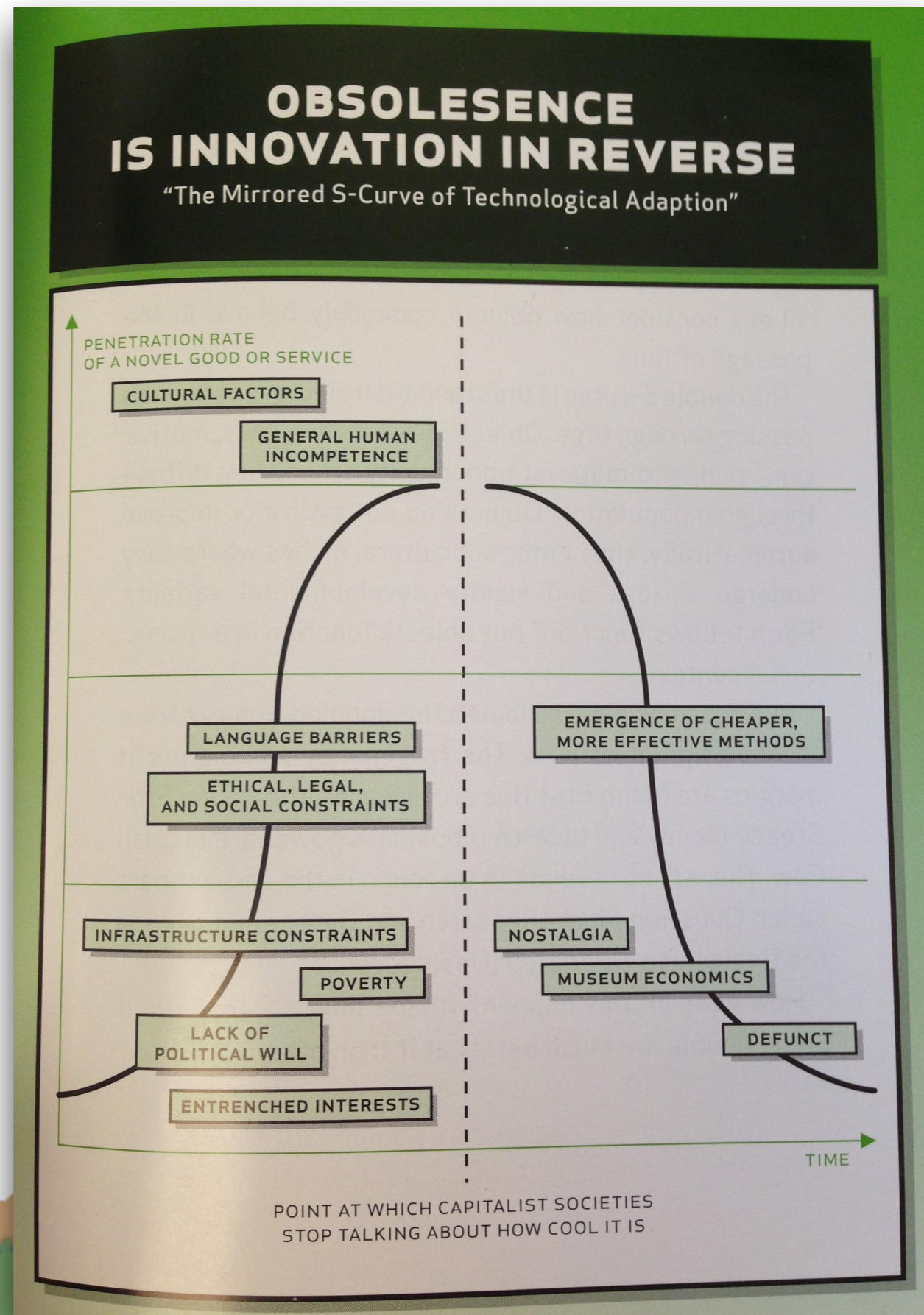
“Pollution tends to persist while the useful tends to wear out”

“Trash is always our premier cultural export to the future”

“We don’t consume waste”

An abstract graphic in the bottom right corner of the slide. It features three overlapping, rounded rectangular shapes. The top shape is light blue, the bottom-left shape is light green, and the bottom-right shape is light orange. These shapes overlap in a way that creates a central white square where all three colors meet. The overall style is minimalist and modern.

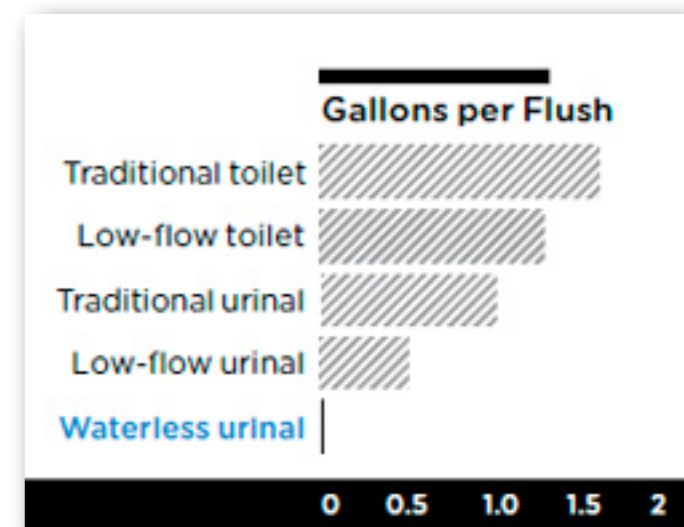
Ch 7: The Rubbish Makers



How do thing move along this curve?

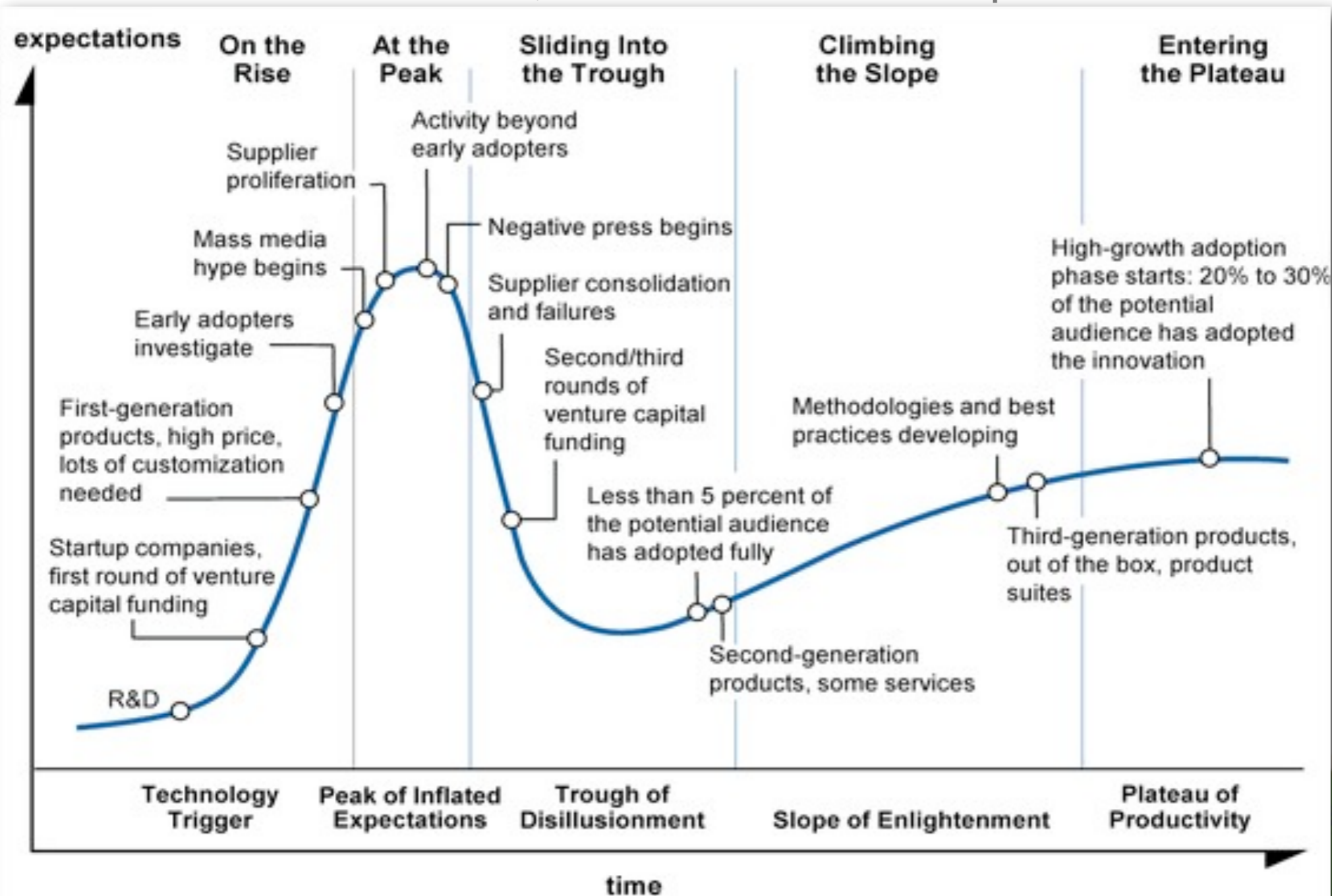
“It isn’t magic. People do it. Some people are better at it than others”

Ch 7: The Rubbish Makers

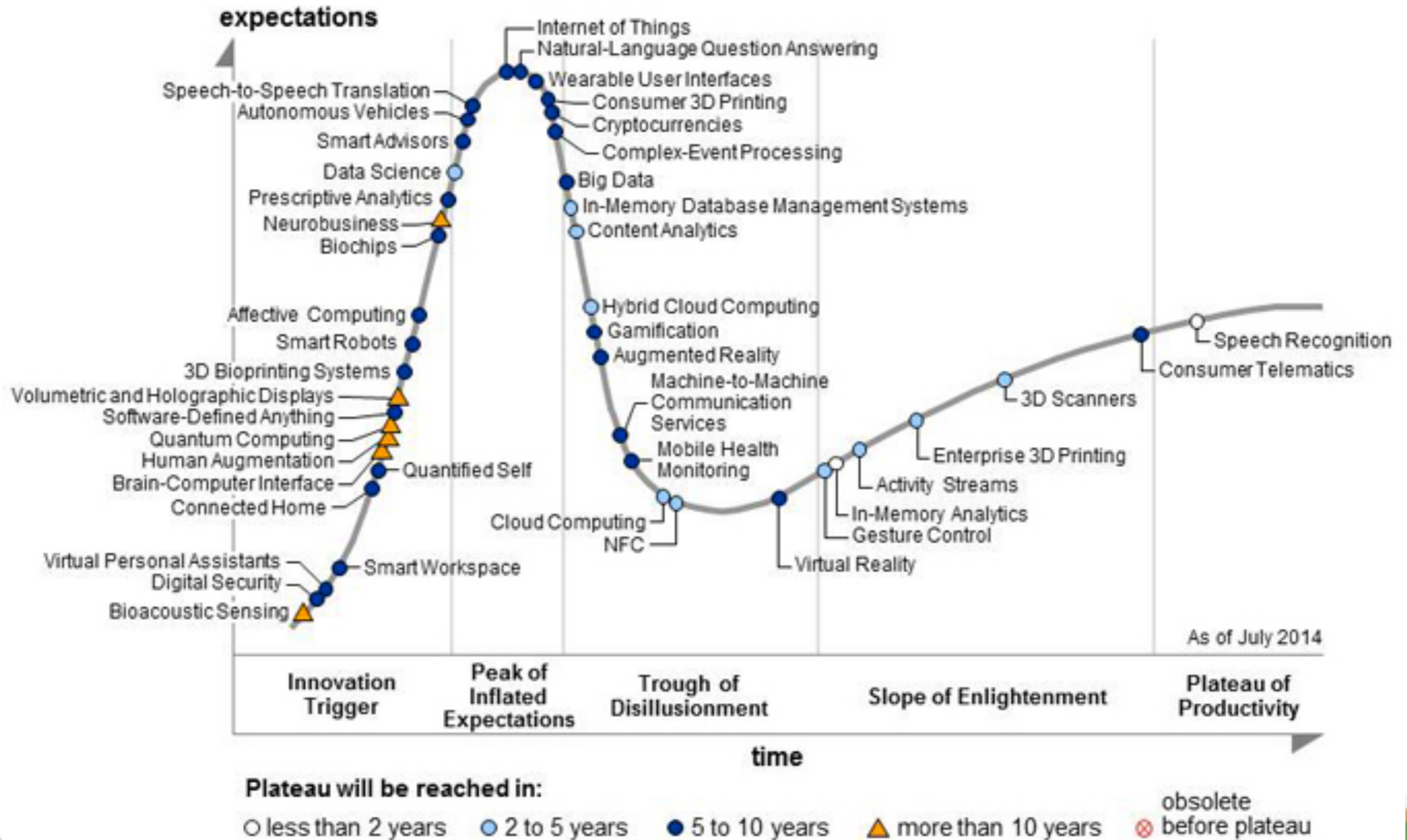


Ch 7: The Rubbish Makers

“Gartner’s Hype Cycle characterizes the typical progression of an emerging technology, from over-enthusiasm through a period of disillusionment to an eventual understanding of the technology’s relevance and role in a market or domain. Each phase is characterized by distinct indicators of market, investment and adoption activities.”



Ch 7: The Rubbish Makers





Domino's Pizza

December 9, 2014 at 7:45 AM



To: Donald (me) Patterson

Reply-To: Domino'sPizza.6z3z0mztvx.fddj@offers.dominos.com

It's been at least 100 days since your last Domino's. But who's counting?

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Domino's

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MONTHS WITHOUT

÷ DOMINO'S? ÷

YOU'VE DEPRIVED YOURSELF LONG ENOUGH.



Ch 8: The Stark Necessity of Glamor



Ch 8: The Stark Necessity of Glamor



Ch 8: The Stark Necessity of Glamor

“Most Advanced, Yet Acceptable”



Ch 8: The Stark Necessity of Glamor

“being designery”



Ch 8: The Stark Necessity of Glamor

“an absolutely acceptable object would be invisible”



Ch 9: An end-user drinks GIZMO wine

“ On eBay [and Amazon] it’s now common to find objects for auction for a penny. I can have that object for a penny, because the point was to inveigle me into the auction process and a relationship with the auctioneer. If i’m given something for free, in a GIZMO-End User situation, then I need to be warily aware that this is almost certainly a loss leader of some kind meant to lure me into some tangled production chain.”



Ch 9: An end-user drinks GIZMO wine

“ I’m not supposed to worry my pretty little head about any of that, but you know something? I know that I am paying for it somehow. Those phenomena do impinge on me: legal, social, ethical, environmental, all of them... They should inform my decision about whether I buy that bottle and integrate its contents into my body.”



Ch 9: An end-user drinks GIZMO wine

“My relationship to this bottle of wine is a parable of my human relationship to all objects.”



Ch 9: An end-user drinks GIZMO wine

Who is able to expose all these externalities in a way that is Most Advanced Yet Acceptable?



Ch 9: An end-user drinks GIZMO wine

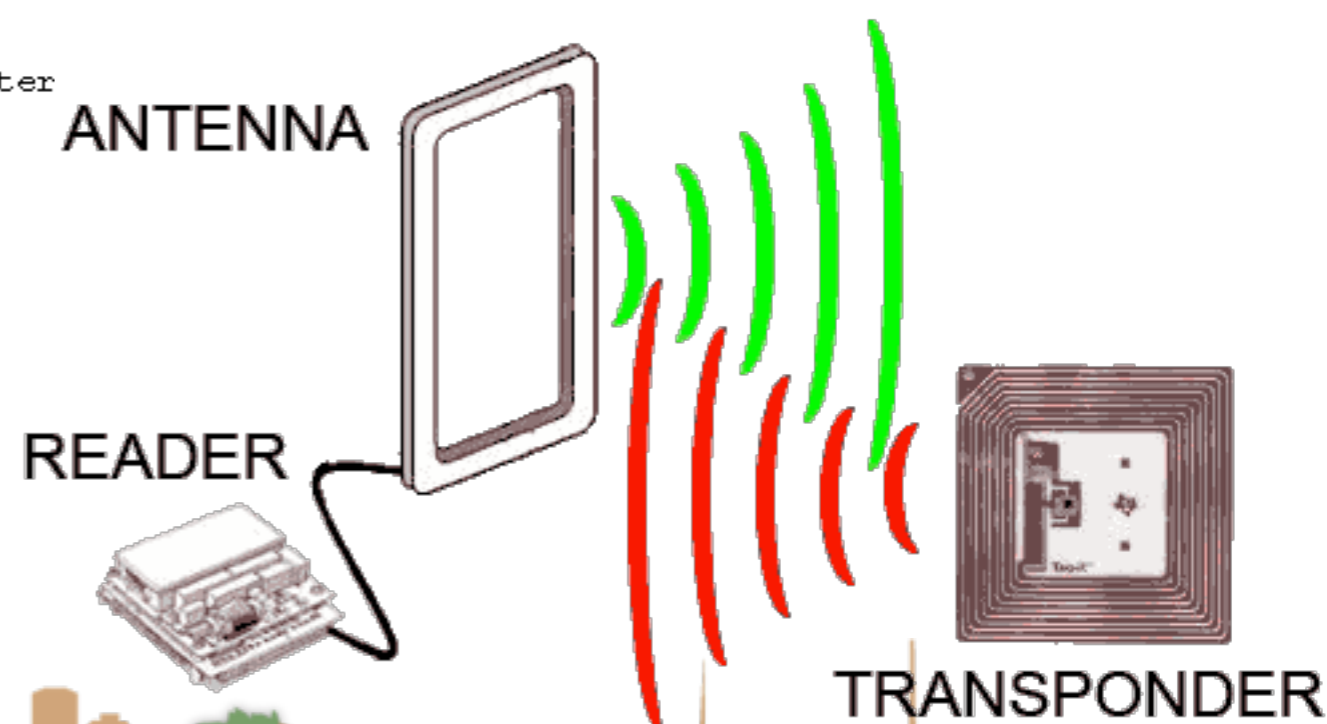
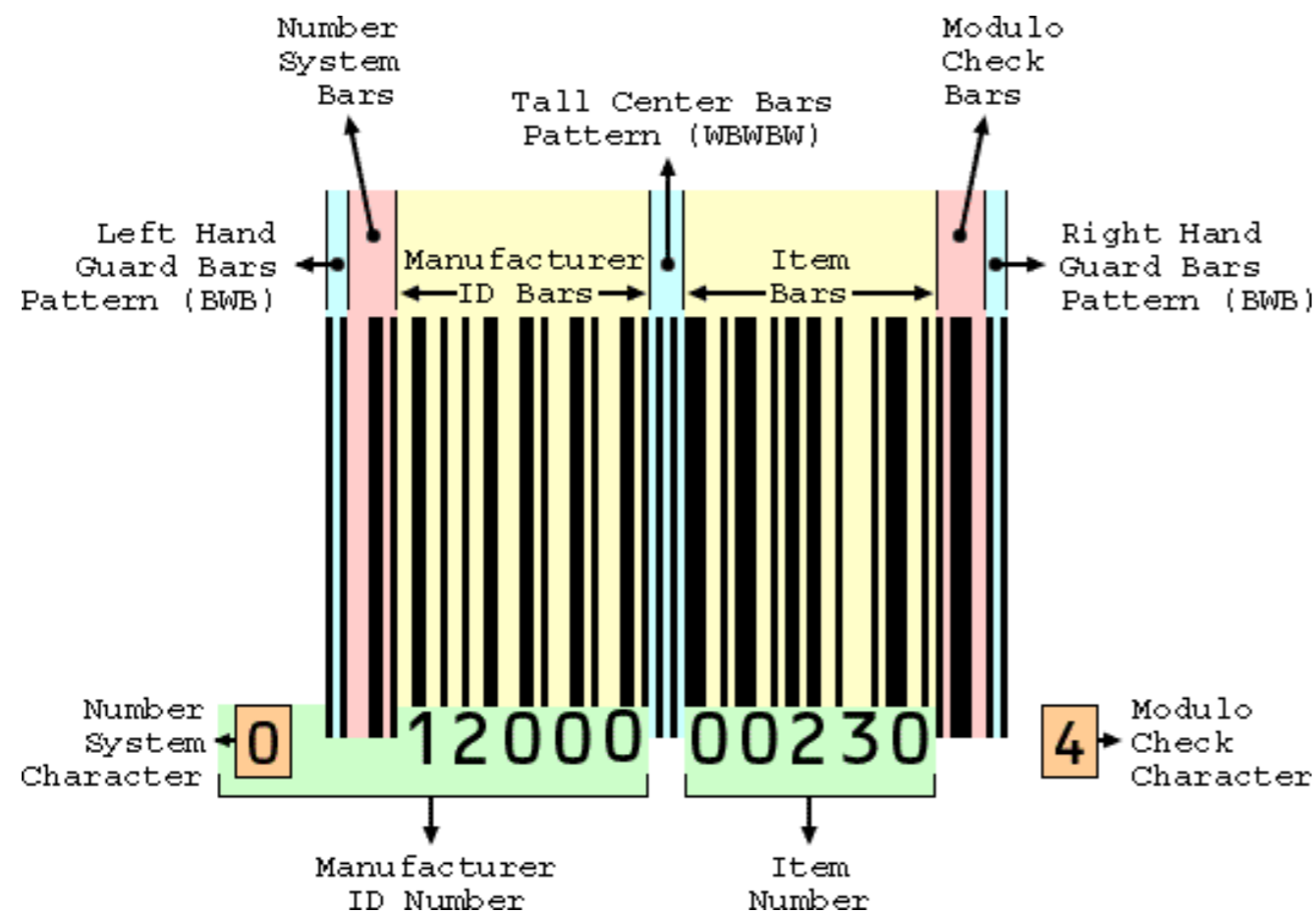
Designers



“a thing is not merely a material object, but a frozen techno-social relationship.”



Ch 10: 11: 12: Internet of Things



RFID

- Review the Technology
- Pets and RFID
 - pets who don't have RFID
- Passive vs. Active
- WISPs
 - <http://wisp.wikispaces.com/WISPHardware>
- Skimming
- an “Internet of Things”



“A SPIME is by definition, the protagonist of a documented process. It is an historical entity with an accessible, precise trajectory through space and time”





Spime

- What happens when “The model is more detailed than the physical object it models.”
- De novo
- Reverse Engineered
- Interaction effects
- SPIME monitors++
- Intellectual property



“It may not seem that I “need” all that information,
but that’s an old-fashioned way to think.
I don’t “need” every web page on the internet,
either.

It’s not a question of designing an internet of things
to meet my so-called “needs.”

It’s vastly cheaper and simpler just to enable
automatic information-generating devices and
processes, then search them mechanically and
cybernetically, to figure out what I “need.”



Fabbing • fabricators will disintermediate the product and gizmo worlds



Making a 3D Model



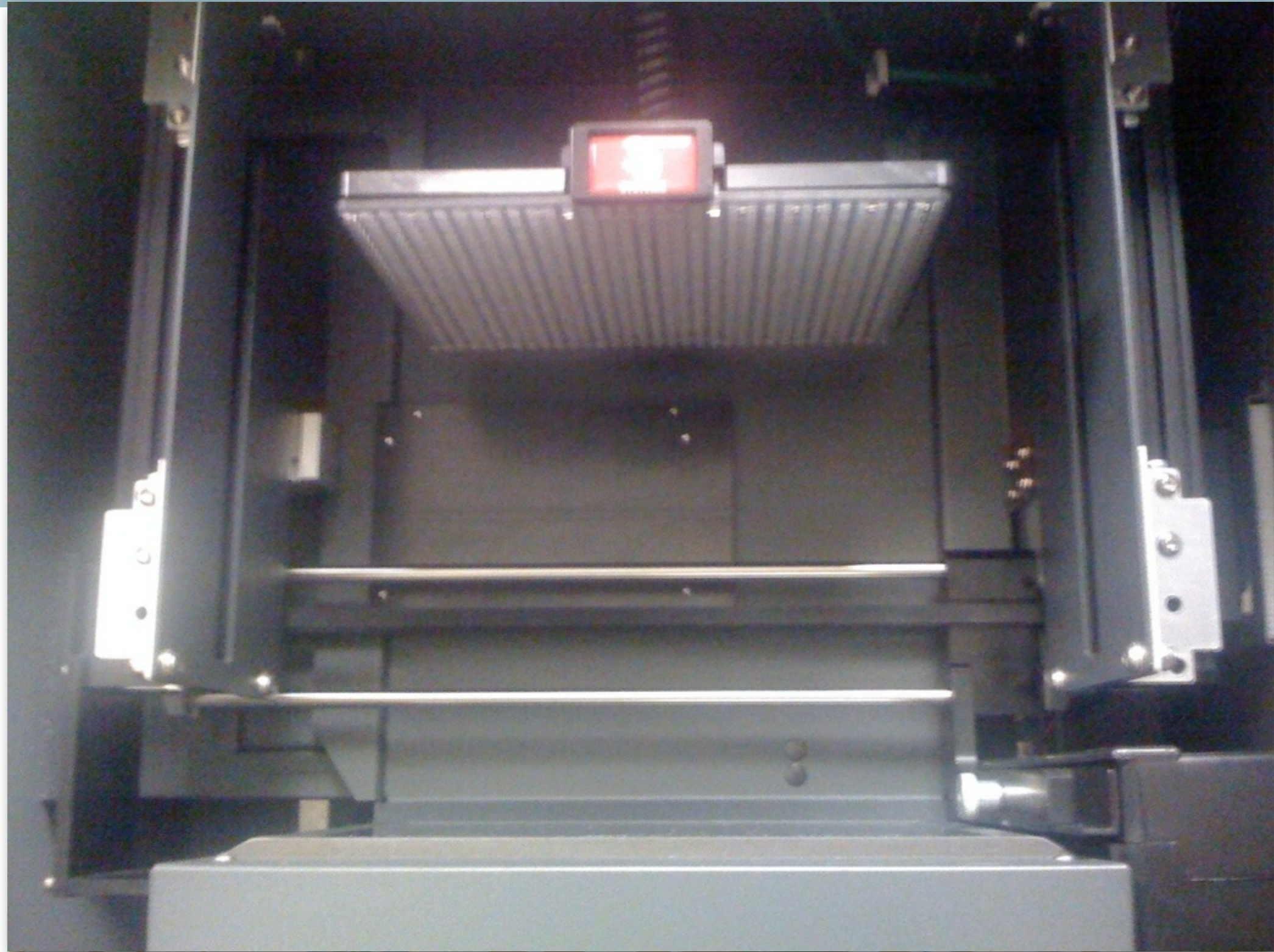
Making a 3D Model



Making a 3D Model



Making a 3D Model



Making a 3D Model



Making a 3D Model



Making a 3D Model



Making a 3D Model



Making a 3D Model



Money

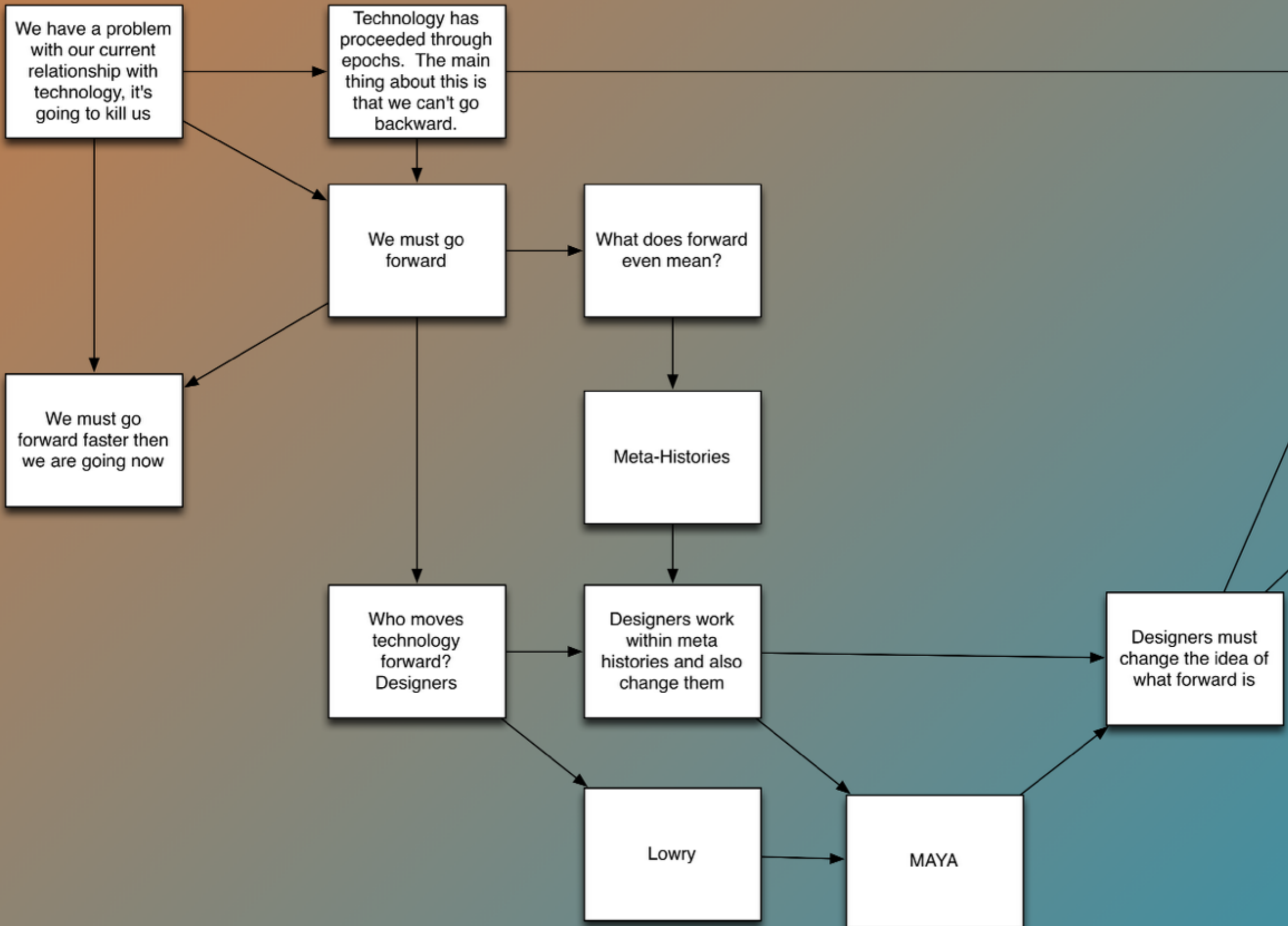
- Gold
- Paper money backed by gold
- Paper money not backed
- Electronic money
- Credit History

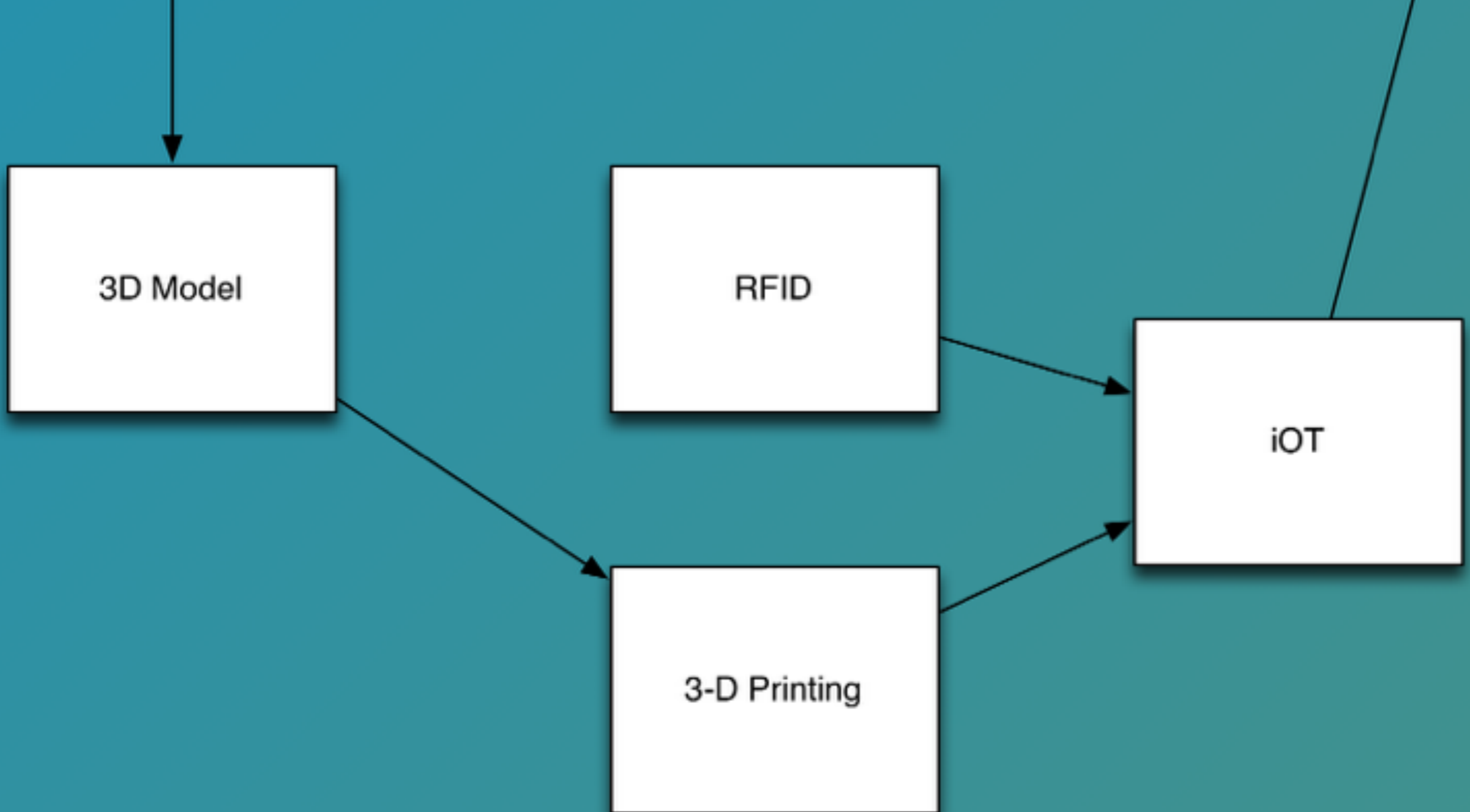


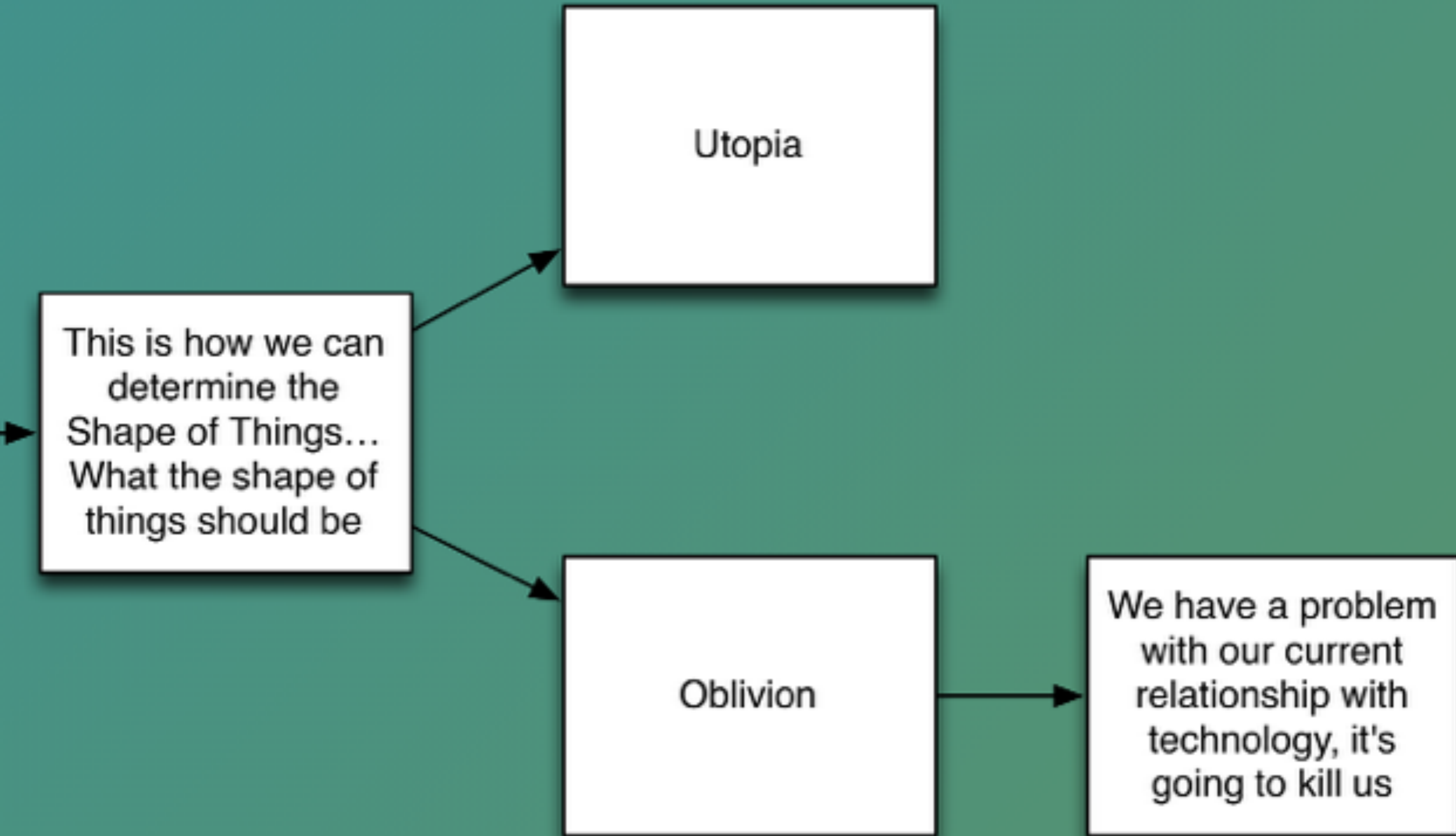
Pulling it all together • Problem



We have a problem
with our current
relationship with
technology, it's
going to kill us







“The only sane way out of a technosociety is through it, into a newer one that knows everything the older one knew and knows enough new things to dazzle and dominate the denizens of the older order. That means revolutionizing the interplay of human and object. It means bringing more attention and analysis to bear on objects than they have undergone. It also means engaging with the human body and its affordances, with our health and our ease and our comfort, with our working environment, with our lungs and our skin and our bones.”



“I hope you are the kind of person that can do it”

