PARADIGM SHIFT:
DATA TOGETHER
COMMUNITIES & INSTITUTIONS USING DECENTRALIZED TECHNOLOGIES TO MAKE A BETTER WEB

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17 AUGUST 2017
DECENTRALIZED WEB

Source: On Distributed Communications Networks, Paul Baran, 1962
The internet has been stolen from you. Take it back, nonviolently.

https://medium.com/@flyingzumwalt/the-internet-has-been-stolen-from-you-take-it-back-nonviolently-248f8d445b87
THE DECENTRALIZED WEB IS STILL FORMING

if we want to make a more resilient web driven by values that run deeper than profit, institutions and community organizations must build themselves into the decentralized web
WHY DID HUMANS CREATE LIBRARIES?

Photo by Public Library of Cincinnati & Hamilton County
LIBRARIES WORKED FOR PRINT PUBLICATIONS

people who love print publications (books, newspapers) love libraries
when the **www** came along

WE ALL DROPPED THE BALL
WE THOUGHT THE WEB WOULD MAKE INFO UBIQUITOUS
WE THOUGHT THE WEB WAS LIKE A LIBRARY

because you can use either one to find and access information
WE THOUGHT THE WEB WAS LIKE A LIBRARY

because you can use either one to find and access information

but libraries are a means of sharing possession of information resources

(the www is not)
LOCATION-ADDRESSING
same info in 100 locations == 100 information resources

SHARING POSSESSION OF INFORMATION RESOURCES

CONTENT-ADDRESSING
same info in 100 locations == 1 information resource, possessed by many
LOCATION-ADDRESSING

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CONSIDER THE ECONOMICS of a location-addressed web
user-generated content is a work product of
WAGE LABOR
HOW SOUNDCLOUD’S BROKEN BUSINESS MODEL DROVE ARTISTS AWAY

‘25 million plays, and zero dollars’

by Dani Deahl and Casey Newton | Jul 21, 2017, 12:41pm EDT
Photography by James Bareham

You Retweeted

Mat Dryhurst @matdryhurst · Jul 13
If Soundcloud goes down, think of all the silent web pages in the press archives. Single point of failure / a decade rendered mute.

You Retweeted

yan @bcrypt · Jul 13
IMO if soundcloud goes under, preserving shares/likes/follows is more important than preserving music files. artists need discoverability.

You Retweeted

Jason Scott @textfiles · Jul 20
Due to a request by Soundcloud, archiving and storage of Soundcloud is ending immediately.
Twitter Is Officially Shutting Down Vine Today

Tom Huddleston, Jr.
Jan 17, 2017

The end is nigh for Vine, as the popular short-video sharing app owned by Twitter will officially become Vine Camera on Tuesday.

Twitter announced three months ago that it would shutter Vine, though it said last month that the service would shift to Vine Camera, a different app that will also let users create 6.5-second looping videos that they can either save or post to Twitter. Starting on Tuesday, the service's website, Vine.co, will stop hosting new videos and will instead serve as an archive for searching old video clips.

In the message last month, Vine encouraged users to download their past Vines before the switch to keep them. It's unclear how long the archive will be available.
Mourning Vine: A Support Thread

Vine announced today that it’s moving beyond this earthly realm. Because we don’t have enough things to be sad about, I guess!

Anyway, I wanna watch 8,000 Vines now. I’ll show you mine* if you show me yours.

*These are not my Vines, personally, but like… aren’t they?

#RIPVine

The Plumb-pudding in danger: — or State Epicures taking a Petit-Souper.

"the great Globe itself and all which it inherit" is too small to satisfy such insatiable appetites.

LOOKS LIKE COLONIALISM
Facebook turned my grief into click bait and then got me to take the bait. [...] And now they're making money off of my disgust. This is an abomination of the possibilities presented by web technologies.

-Matt Zumwalt on facebook, 30 December 2014

The Switch

Facebook’s ‘Year in Review’ app swings from merely annoying to tragic

- Washington Post December 2014
Facebook's 'colonial' Free Basics reaches 25 million people - despite hiccups

The program offering free, limited internet service to the developing world has faced setbacks and criticism but now has 500 apps available in 37 countries

Facebook's CEO, Mark Zuckerberg, speaks on stage during the Facebook F8 conference in San Francisco, California, on Tuesday. Photograph: Stephen Lam/Reuters

https://www.theguardian.com/technology/2016/apr/12/facebook-free-basics-program-reach-f8-developer-conference
Spinning your own yarn was a central part of the swadeshi movement that undercut the British Empire’s economic control of India. Source: Wikimedia Commons.
NEED WAYS TO
POSSESS AND EXCHANGE
INFORMATION
INDIVIDUALLY AND COLLECTIVELY
Information should be **held by the people who rely on it.**

**Communities & institutions should aggregate information and resources** to support access, discovery & preservation.
SHARING POSSESSION OF INFORMATION RESOURCES
LOCATION-ADDRESSING
same info in 100 locations == 100 information resources

SHARING POSSESSION OF INFORMATION RESOURCES

CONTENT-ADDRESSING
same info in 100 locations == 1 information resource, possessed by many
**Benefit:** If anyone on the network has a copy of the content you will be able to find and retrieve it.
CONTENT ADDRESSING

Key idea: It doesn’t matter where the content is stored. What matters is being able to know that you’re getting exactly the content you requested*

*also important to consider who you got the link/address from.
CONTENT ADDRESSING

CORE CONCEPT

How: identify content by its cryptographic hash

827c cb0e ea8a 706c 4c34 a168 91f8 4e7b
**CORE CONCEPT**

**CONTENT ADDRESSING**

**Benefit:** If anyone on the network has a copy of the content you will be able to find and retrieve it

**Key idea:** It doesn’t matter where the content is stored. What matters is being able to know that you’re getting exactly the content you requested*

**How:** Identify content by its cryptographic hash

*also important to consider who you got the link/address from.
"Can we pin a copy at the library?"

This file is important.

We've got you covered. Just tell me the hash of the file and the hash of the surrounding metadata. We will accession all of it.

LIBRARIAN
we need librarians

APPLYING LIBRARY PRACTICE

ACCESSIONING
COLLECTION DEVELOPMENT
CATALOGING
INTER-LIBRARY LOAN
DECENTRALIZED WEB

technical part
of the solution

CONTENT-ADDRESSING
PEER TO PEER PROTOCOLS
PUBLIC KEY CRYPTOGRAPHY
DATA TOGETHER

social + organizational part of the solution

INSTITUTIONS
COMMUNITY ORGANIZATIONS
GOVERNMENTS
NGOS

supporting communities’ shared possession of information
re-contextualizing DATA RESCUE
MATRIX OF RISK + VALUE

can’t be built by any one organization or one community

and shouldn’t be.
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