

<http://blogs.ischool.berkeley.edu/i103su09/>

# THE HISTORY OF INFORMATION

Lecture 1 – July 6, 2009 – Megan Finn

# Agenda

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- Welcome!!!!
- The information age
- Information age and the news from Iran
- Technological determinism
- Getting to know each other
- Syllabus walk through
- Questions

# Welcome







“This is South Hall, the oldest building on campus...”

“I’m not exactly sure what goes on in there... Something with technology and computers...”



“But somewhere on this building is the smallest bear on campus!”

# Why INFORMATION?



- It's everywhere!
- How MUCH information?
- We are apparently in the midst of an Information Age!



# The information age

How are people talking about it?

# choosing to shape the **information age**



- “At the dawn of the 21st century **a free people must now choose to shape the forces of the Information Age and the global society**, to unleash the limitless potential of all our people, and, yes, to form a more perfect union.”

# choosing to shape the **information age**

- “At the dawn of the 21st century a **free people must now choose to shape the forces of the Information Age and the global society**, to unleash the limitless potential of all our people, and, yes, to form a more perfect union.”
- – Bill Clinton 1997, Inaugural Address <http://www.bartleby.com/124/pres65.html>





# Our times: the information age



- **“Yet today our military is still organized more for Cold War threats than for the challenges of a new century -- for industrial age operations, rather than for information age battles.”**

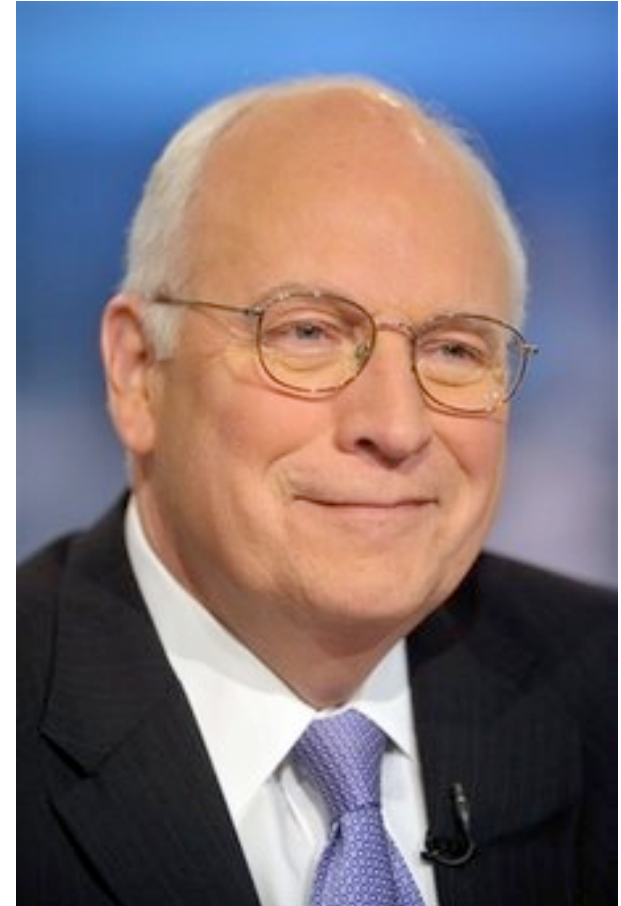
# information age as a tool I

- **“Yet today our military is still organized more for Cold War threats than for the challenges of a new century -- for industrial age operations, rather than for information age battles.”**
- - George Bush, “A Period Of Consequences,” The Citadel, South Carolina, Thursday, September 23, 1999



# Our times: the **information age**

- **“You don’t hear our times referred to as the Space Age anymore, instead it’s the Information Age. You will notice they call it the Information Age, not the Knowledge Age.”**
- -Dick Cheney, speech at the Institute of Petroleum Autumn lunch, 1999, <http://www.energybulletin.net/node/559>



# information age as a tool II

- “Our new enemies **take advantage of the information age and the 24-hour news cycles, creating images of chaos and suffering for the cameras**, in the hope that these images will horrify the American people and undermine resolve and morale here at home.”
- George W. Bush. Commencement Address at the United States Air Force Academy. May 28, 2008 <http://www.presidentialrhetoric.com/speeches/05.28.08.html>



# Information age of hysteria



- “Don't want to be an American idiot/ One nation controlled by the media/ **Information age of hysteria**/ It's going out to idiot America”

# Information age of hysteria

- “Don't want to be an American idiot/ One nation controlled by the media/ **Information age of hysteria**/ It's going out to idiot America”
- - Green Day, American Idiot, 2004, american idiot





# pop culture in the information age



- **“If information wants to be free in the information age, then so does music.”**

- Scott Thill, Underwire Taking the Pulse of Pop Culture: Should The Beatles' 'Revolution' Bootleg Have Stayed in the Vault? March 1, 2009, <http://www.wired.com/underwire/2009/03/should-the-beat/>



**Biden: Palin Wasn't A Victim Of 'Political Blood Sport'**



**Obama Warns Health Care Advocacy Groups: Stop Attacking Moderate Dems**



**Larry Arnstein**

Posted: April 21, 2007 03:49 PM



BIO



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# Information Age Replaced by Attitude Age

Politics News



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# DAILY KOS

## The Information Age is over...

by **Ashaman**

Sat Jun 27, 2009 at 02:41:29 PM PDT



Human history is best thought of in Ages. An Age is somewhat tied to the prevailing technology of the day, but also defined by how that technology is used, where our attention is focused.

We started with the Stone Age, where our first pieces of technology were stone blades. We then followed with a series of ages named after the best metal we could produce, Copper, Bronze, Iron, Steel. The early part of the 20th century is often considered the Industrial Age, and the late 20th century marked the beginning of the Information Age, based on computer technology.

But I can see the future, and the Information Age just ended. When historians look back at the beginning of the 21st century, they'll draw a line and say: "Here lies the beginning of the *Climate Age*."

**Ashaman's diary** :: ::

But '*climate*' isn't a technology, you can't name an age after it!

Ok, fine, give me a better name then. I'm serious.

But what else are we going to call it? For the next century or so, mankind is going to be increasingly focused on two simple tasks: preventing additional climate change, and dealing with the damage to our

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# The paradoxical information age

- It's the **great irony of our Information Age** -- the very technologies that empower us to create and to build also empower those who would disrupt and destroy. And this paradox -- seen and unseen -- is something that we experience every day.
- - Barak Obama, Remarks by the President on Securing our Nation's Cyberinfrastructure, May 29, 2009, [http://www.whitehouse.gov/the\\_press\\_office/Remarks-by-the-President-on-Securing-Our-Nations-Cyber-Infrastructure/](http://www.whitehouse.gov/the_press_office/Remarks-by-the-President-on-Securing-Our-Nations-Cyber-Infrastructure/)

# Information age: strength = weakness



- **In this Information Age, one of your greatest strengths -- in our case, our ability to communicate to a wide range of supporters through the Internet -- could also be one of your greatest vulnerabilities.**
- - Barak Obama, *ibid*



# What is the information age?

What makes this an information age?

What does it mean to live in an information age?



# Elements of the information age

- Writing systems
- Print
- Literacy
- “the public”
- Information property
- Authoritative reference
- Newspapers
- Imagery
- Advertising
- Point to point communication - phones
- Broadcast media – TV
- Engineers, designers, technicians, researchers
- Corporations
- The Internet
- “New media”
- The state
- Information and Crisis

# So what is the **information age**?



- information age:
- “The period beginning around 1970 and noted for the **abundant publication, consumption, and manipulation of information, especially by computers and computer networks.**”
- *American Heritage Dict., 4th ed.*

# So what is the **information age**?



- “The Information Age, also commonly known as the Computer Age or Information Era, is an idea that the current age will be characterized by the **ability of individuals to transfer information freely, and to have instant access to knowledge** that would have been difficult or impossible to find previously”.
- -Wikipedia, Accessed: July 5, 2009

# The information age in Iran

What is a political revolution in the information age?



# Iran timeline

- June 12, 2009 – polls open; mobile networks shut down
- June 13, 2009 – protests begin
- June 14, 2009 – violence intensifies
- June 15, 2009 – march on streets
- June 16, 2009 – foreign media kicked out
- June 17, 2009 – soccer team players protest
- June 18, 2009 – more marching to mourn those killed in protests
- June 19, 2009 – Khamenei denounces protests
- June 20, 2009 – more protest, violence escalates; Neda killed
- June 24, 2009 – Moussavi website calls for more protest
- June 26, 2009 – Guardian council declares election healthy.
- June 29, 2009 – Guardian council certifies results
- July 2, 2009 – mobile networks restored
- July 5, 2009 – Some Iran Clerics call the vote invalid
- Source: NY Times, BBC

# The information age in Iran

- “It is still possible **that the information age will crack authoritarian structures** in Iran,” wrote Jon B. Alterman, director of the Middle East program for the Center for Strategic and International Studies in Washington. **“But it is far more likely that the government will be able to use that technology to secure its own rule.”**

- - New York Times, June 26, 2009 by By NAZILA FATHI and MICHAEL SLACKMAN [http://www.nytimes.com/2009/06/27/world/middleeast/27iran.html?\\_r=1&scp=1&sq=%22information+age%22&st=nyt](http://www.nytimes.com/2009/06/27/world/middleeast/27iran.html?_r=1&scp=1&sq=%22information+age%22&st=nyt)





## What does the information age do?

**“It is still possible that the information age will crack authoritarian structures in Iran,”**



salon.com

Sunday, Jul 5, 2009



### Glenn Greenwald's Unclaimed Territory

I was previously a  
constitutional law and civil

BRIAN WILSON  
BOBBLEHEAD DAY!

SUN. JULY 12, 1:05 P.M.

Search

Go!



Salon



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## Glenn Greenwald

WEDNESDAY JUNE 24, 2009 05:25 EDT

### The "Neda video," torture, and the truth-revealing power of images

(Updated below - [Update II](#) - [Update III](#) - [Update IV](#))

The single most significant event in shaping worldwide revulsion towards the violence of the Iranian government has been the video of the young Iranian woman bleeding to death, [the so-called "Neda video."](#) Like so many iconic visual images before it -- from My Lai, fire hoses and dogs unleashed at civil rights protesters, Abu Ghraib -- that single image has done more than the tens of thousands of words to dramatize the violence and underscore the brutality of the state response.

# TV, western media, the state

- “**the government** tries to jam all foreign **TV stations**—in particular, the **BBC’s** Persian-language channel.... has been hugely influential in spreading news of the protests to Iranians who would otherwise have relied on state television or the inferior American-based Persian-language channels.”

- “Letter from Tehran: With the Marchers, A resident reports from the streets and the rooftops.” New Yorker, June 29, 2009 [http://www.newyorker.com/reporting/2009/06/29/090629fa\\_fact?currentPage=all](http://www.newyorker.com/reporting/2009/06/29/090629fa_fact?currentPage=all)

# “Iran's Twitter Revolution”?

- “Forget CNN or any of the major American “news” networks. If you want to get the latest on the opposition protests in Iran, you should be reading blogs, watching YouTube or following Twitter updates from Tehran, minute-by-minute.”

□ -Ari Berman, “Iran’s Twitter Revolution,” the Nation, 06/15/2009 <http://www.thenation.com/blogs/notion/443634/print>

# Twitters

- Everybody is peaceful and quiet - everybody is wearing black - the number of people is unbelievable - SEA OF GREEN - #Iraelection 5:48 a.m. June 18 (persiankiwi)
- some of Iran's universities were closed and exams canceled after Basij attacks/ @ Tehran & Shiraz & Ahvaz & Zahedan &... #Iraelection 5:00 p.m. June 18 (madyar)

□ Source: <http://www.newsweek.com/id/20395>

ANDREW SULLIVAN • OF NO PARTY OR CLIQUE

# THE DAILY DISH



« [Mousavi In The Middle](#) | [Main](#) | [What They're Chanting](#) »

15 Jun 2009 05:00 pm

## **Twitter *Maintenance*?**

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I'm told that Twitter will go down tonight for an hour and half for maintenance. All I can ask is that they reconsider if they can. Taking Twitter down when it is the critical tool for organizing the resistance in Iran is Ahmadinejad's dream. This event has been Twitter's finest hour. Don't spoil it. They need you.

[Permalink](#) :: [Trackback \(0\)](#) :: [Sphere It!](#) :: [Share This](#)



# Tianamen + Web = Tehran?

- “In this world, a tweet from Canada leads to a Facebook fan page created in the United States, which then leads to a YouTube video from Iran. But these platforms are merely tools that allow people to connect over ideas.”

- Jose Antonio Vargas, “Does ‘Tiananmen + Web = Tehran?’” Washington Post, June 23, 2009 <http://www.washingtonpost.com/wp-dyn/content/article/2009/06/23/AR2009062301355.html>

# What did information technology do?

- “1. It has helped Iranians communicate with each other.
2. It has helped Iranians communicate with the outside world.
3. It has helped the rest of the world communicate with both Iranians and others who sympathize with the protesters.

....

“While we can only imagine what it is like to be on the streets or to lose a loved one during this #IranElection crisis, social media has opened a direct line of accessible information to us. It may very well prove to be a key factor in the fate of Iran itself.”

- Ben Parr, “#IranElection Crisis: A Social Media Timeline” June 21st, 2009 <http://mashable.com/2009/06/21/iran-election-timeline/>



## Complicating the story

“But it is far more likely that the government will be able to use that technology to secure its own rule.”

# Doubting Twitter

Let's not get carried away about its role in Iran's demonstrations.

*By Jack Shafer*

Posted Wednesday, June 17, 2009, at 5:33 PM ET

**Read more of Slate's coverage of [Iran's June 12 election and its aftermath](#).**



I [demonstrate](#) my personal enthusiasm for Twitter dozens of times a day by posting my own tweets, reading many of those posted by the [72](#) folks I currently follow, and retweeting like a magpie.

Yet my zeal for Twitter knows a limit: Unlike several other technology-friendly journalists, I've found it more [noise than signal](#) in understanding the Iranian upheaval. I'm not saying that there is no signal to be found; I'm just saying that my cognitive colander isn't big enough to strain out Iran information I can rely on. **Slate**



# JOSHUA KUCERA

NEW WORLD ORDER



MY PROFILE



MY HEADLINE GRABS



MY RSS FEED

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Jun. 15 2009 - 11:17 pm | 18,380 views | 7 recommendations | 33 comments

## What if Twitter is leading us all astray in Iran?

Here are a few of the things that we've "learned" the last few days about the Iranian elections and their aftermath:



# “Jamming” the news

- “The easiest way to stop an image, of course, is to hit the photographer; take the tape off the camera operator; and either shoot or throw anyone else in jail. From what we have managed to **get off the birds** in the past few days, it seems like that’s the strategy Iran’s rulers have found most reliable.”
- -Marc Herman, “How Iran ‘Jams’ Election News” June 15, 2009 <http://trueslant.com/marcherman/2009/06/15/can-iran-really-jam-communications/>

# Getting information out?

Channel	Satellite	Orbit	Frequency	SR FEC	Mode	Beam
Jame-Jam TV Network 1 Jame-Jam TV Network 2 Alkawthar TV Sahar 2 IRIB Quran IRINN Iranian News Network Alalam News Channel Press TV	HotBird 8	13 E	12437 H	27500 3/4	FTA	HB-8
Alkawthar TV	Badr-6	26 E	11746 V	27500 3/4	FTA	Badr-6 BSS
Alalam News Channel	Badr-4	26 E	11996 H	27500 3/4	FTA	Badr-4 BSS
Press TV	Badr-4	26 E	12054 V	27500 3/4	FTA	Badr-4 BSS
Press TV	Eurobird 1	28.5 E	12691 V	27500 2/3	FTA	E.Bird-1 Fixed
Press TV	Arabsat-2B	30.5 E	3823 L	27500 3/4	FTA	Medium
Press TV	Arabsat-2B	30.5 E	12630 V	3000 3/4	FTA	Arabsat 2B Ku
Khoozestan TV Lorestan TV	Intelsat 902	62 E	10962 V	5300 3/4	FTA	902 Spot-1 MiddleEast
Kermanshah TV Kordestan TV Ilam TV	Intelsat 902	62 E	10971 V	8150 3/4	FTA	902 Spot-1 MiddleEast
Mazandaran TV / Teheran TV						902

# Surveillance

- “Using a system installed last year (and built, in part, by Nokia and Siemens), the government routes all digital traffic in the country through a single choke point.”
- Farhad Manjoo, “The Revolution Will Not Be Digitized: How the Internet helps Iran silence activists.” June 25, 2009 <http://www.slate.com/id/2221397/>



# Iranian government and crowd sourcing

- “On Wednesday, a reader alerted the Lede to an Iranian government Web site called Gerdab.ir, where **authorities had posted pictures of protesters and were asking citizens for help in identifying the activists.** That's right—the regime is now using crowd-sourcing, one of the most-hyped aspects of Web 2.0 organizing, against its opponents.”

- Farhad Manjoo, “The Revolution Will Not Be Digitized: How the Internet helps Iran silence activists.” June 25, 2009 <http://www.slate.com/id/2221397/>

# Technical Dystopia?



- “The big story in Iran is confusion—on a daily basis, there are more questions than answers about what's really happening, about who's winning and losing, about what comes next. The surprise isn't that technology has given protesters a new voice. It's that, despite all the tech, they've been effectively silenced.”
- Farhad Manjoo, *ibid*



# The information age?

A really complicated picture

# Elements of the information age

- **Writing systems**
- **Printing press**
- Literacy
- “the public”
- Information property
- Authoritative reference
- **Newspapers**
- **Imagery**
- Advertising
- **Point to point communication - phones**
- **Broadcast media – TV**
- Engineers, designers, technicians, researchers
- Corporations
- **The Internet**
- **“New media”**
- The state
- Crisis



# Making sense of change

What does technology DO?

# What is technological determinism?

- "new technologies are discovered, by an essentially internal process of research and development, which then sets the conditions for social change and progress. Progress, in particular, is the history of these inventions, which 'created the modern world' The effects of the technologies, whether direct or indirect, foreseen or unforeseen, are as it were the rest of history."
- Raymond Williams, Television, Technology, and Cultural Form )

# Claims people make about technology



- "When technology shifts, it bends the culture"
  - ▣ Kevin Kelly, "Becoming Screen Literate," *New York Times* 2008

# Claims people make about technology



- *The Death of Distance: How the Communications Revolution Will Change our Lives*
  - Frances Cairncross, 1997



# Claims people make about technology



- “Electric circuitry has overthrown the regime of 'time' and 'space' and pours upon us instantly and continuously concerns of all other men..”
  - ▣ Marshall McLuhan et al., *Medium is the Massage*, 1967

# Claims people make about technology



- "the almost complete annihilation of time and space between the distant antipodal points of the American continent ... produced by the construction of the Pacific Railroad"
  - ▣ John Wesley Clampitt, *Echoes from the Rocky Mountains*, 1888

# assessing claims about technology



# Necessary v. sufficient



- "The hand-mill gives you society with the feudal lord; the steam- mill society with the industrial capitalist." —Karl Marx
- "Is industrial technology the necessary and sufficient condition for capitalism?" -Heilbroner.

# New replaces old?



# Conflating technology and institution



**Grandfather:**  
Well, I finally finished my  
doctoral thesis.



**Woman:**  
Way to go, Gramps.



**Grandfather:**  
Did my research at  
Indiana University.

**Woman:**  
Indiana?



**Grandfather:**  
Yup. IBM took the  
school's library...and  
digitized it. So I could  
access it over the Internet.

*She cocks her ear to take  
this all in.*



**Grandfather:**  
You know...It's a great time  
to be alive.

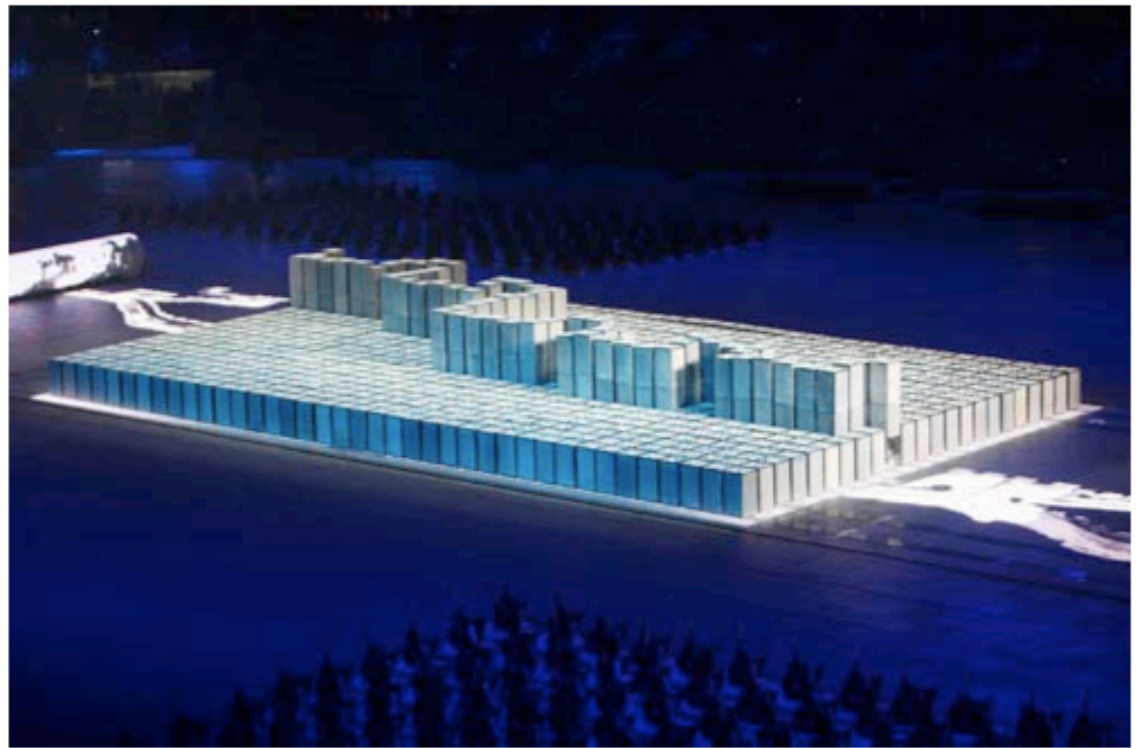


**Tag:**  
IBM. Solutions for  
a small planet.

# Constraints or resources?



# getting your history wrong





# Nunberg fallacy/error



# Unintended consequences



# Moral hazard





# Making sense of it all

Understanding change = technology + institutions

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# So what about this information age?

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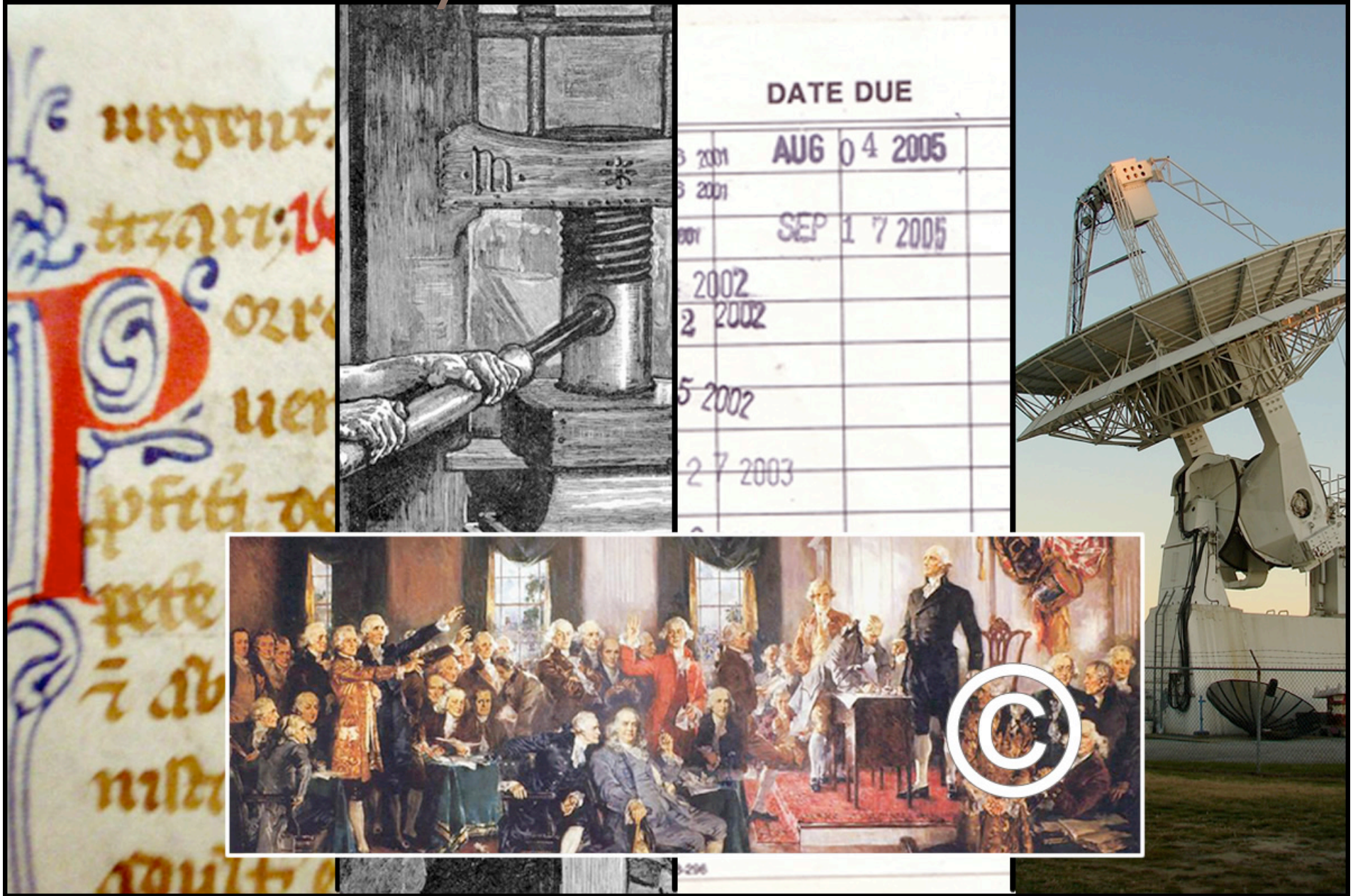
- - New York Times, June 26, 2009 by By NAZILA FATHI and MICHAEL SLACKMAN [http://www.nytimes.com/2009/06/27/world/middleeast/27iran.html?\\_r=1&scp=1&sq=%22information+age%22&st=nyt](http://www.nytimes.com/2009/06/27/world/middleeast/27iran.html?_r=1&scp=1&sq=%22information+age%22&st=nyt)

# Understanding the information age



- “But we need to remember: We're only at the beginning. The epochs of history are long -- the Agricultural Revolution; the Industrial Revolution. By comparison, **our Information Age is still in its infancy.** We're only at Web 2.0. Now our virtual world is going viral. And we've only just begun to explore the next generation of technologies that will transform our lives in ways we can't even begin to imagine.”
- Barak Obama

# The History of Information





# What does information age mean?



## □ In Iran:

- Institutions: The State, the Western Media, the Iranian Public, (the American Public), literacy, truth
- Technology: Twitter, the Internet, TV, Mobile phones, networks, Cameras
- Documents: Tweets, News, Imagery, Articles

# On language



- “In many photos, riot police wear uniforms with the English word police on them. Ambulances, too, bear the word ambulance in English. Why not use Persian words instead of their English equivalents? Because everyone knows English.”
- Christopher Beam, “Prints of Persia: Why are Iranian police markings written in English?” June 17, 2009 <http://www.slate.com/id/2220307/>

# To what ends?

- "Is writing on a Facebook wall while you're peacefully sitting at work, is watching a YouTube video of what's happening in Iran on your iPhone -- all these things we're doing -- are they enough? I don't know,"

- Quoted by Jose Antonio Vargas, "Does 'Tiananmen + Web = Tehran'?" Washington Post, June 23, 2009 <http://www.washingtonpost.com/wp-dyn/content/article/2009/06/23/AR2009062301355.html>