# History of Communications Media

## Class 1

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# History of Communications Media

- Outline of Course
  - Question – Why Study the History of Media?
  - Key Definitions
  - Some Notes About:
    - Information
    - Human Perception and Communication
    - Pre-literate Cultures
  - The Impacts of Literacy
  - The Impact of Printing

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# History of Communications Media

- Outline of Course – 2
  - The 19$^{th}$ Century Media Revolution
    - Printing Innovations & their Consequences
    - Photography
    - Telegraph
    - Telephone
    - Motion Pictures
  - The 20$^{th}$ Century Media Revolution
    - Radio
    - Television
    - Xerox Machine
    - Computers & the Internet
    - Cell phones

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# What are Communications Media?

- My definition:
  - The technologies, systems, and material artifacts used to communicate (and store) signals, data, messages, or information to one or more recipients, an audience, or the public.

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## Why is the Study of Media Important?

- To a large extent, who we are now is the product of our memories of the past
  - Increasingly our memories of key events consist of media images and accounts
- Different media have different intrinsic defining characteristics in terms of:
  - What type(s) of information or message they can convey
  - How well they can convey it
  - The speed, completeness, and accuracy with which they can convey it
  - How recipients receive, assimilate, and react to the information

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If you look back to the major historical events of the past 50 years, almost all people's experience of them consist of TV images and, more recently, Internet video. When eyewitnesses to an event, such as a sports event, have the opportunity to either watch the action on the field or to view it on the large Jumbotron, you see more people viewing the Jumbotron than looking at the field.

Information can exist in the form of visual images, spoken words, written words, visual symbols, music, sounds, or aural codes (such as Morse code). One can use different forms of information in  different communications media or channels to convey an identical conceptual message. Thus, for example, one could communicate the concept "Persian cat" by using handwritten letters, a painting, a cartoon, a television image, a Morse code signal, or a spoken word over the radio. Receivers and audiences, however, would receive the message differently in each media. Reading about an event in the newspapers is not the same as hearing it over the radio or seeing it on television. Seeing a JPEG copy of a Rembrandt on the Internet is not the same as viewing it in an art gallery.

# Why is the Study of Media Important – 2

- To a large extent, who we are now is the product of our memories of the past
  - Increasingly our memories of key events consist of media images and accounts
- Different media have different intrinsic defining characteristics that affect
  - The types of information they can convey
  - Whether they are point-to-point or broadcast or both
  - How people access them

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# Why is the Study of Media Important? - 3

- As communication theorists and historians point out, changes in dominant communication technologies eventually cause changes in the culture
- New Communications Media like other new technologies:
  - Obsolete other technologies or relegate them from a dominant technology to a niche
  - Raise new issues and problems when adopted on a large scale
  - Often upset existing distributions of wealth, power, and status
    - Empower some (often new) groups and diminishes the power of others
    - Give rise to new social institutions to deal with the new issues and problems

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Using the automobile as an example, the auto rendered the horse & buggy and the stagecoach obsolete and reduced them to very small niches, e.g. conveying couples in a horse & buggy through Central Park or Alexandria. When large numbers of people started driving cars, new problems arose, such as traffic accidents, parking, teen-age sex in the car, and traffic congestion. As a result of the problems, new social institutions arose such as state highway police, traffic cops, motor vehicle departments, traffic courts, car dealerships, gas stations, auto repair shops, etc. The auto also made General Motors, Ford, and Chrysler major corporations, created new jobs such as auto mechanic and gas station attendant, drove stagecoach manufacturers such as Abbot-Downing Company of Concord NH (manufacturers of the Concord stage) out of business, and adversely affected employment of blacksmiths, stagecoach drivers, and cowboys.

# Why is the Study of Media Important? 4

- Communications Media differ in such socially relevant ways as:
  - The number and types of people who can access the media as either message/information senders or message/information recipients. This reflects:
    - Cost of the media
    - Technological sophistication required
    - Ease of use
    - The ease or difficulty with which society or the government can control access and/or content

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Thus, for example, an 1840's daguerreotype camera and a 1980's Instamatic could both capture still visual images. The Instamatic, however, can capture the visual data much more quickly and easily. Its low cost and ease of use permit millions of people to take pictures with it whereas only a small number could afford or had the technical sophistication to produce daguerreotypes. A daguerreotype was a one-of-a-kind image whereas Instamatic negatives could produce multiple print copies. Hence, between the two still photo technologies, there is a difference of technological level and scale. This disparity will cause the information, communication, and socio-economic consequences of daguerreotypes and Instamatics to differ. Likewise, the information, communication, and socio-economic consequences of Instamatics and digital image cameras will differ because images from the latter can be easily uploaded to a computer and easily disseminated far and wide by either email or putting them up on a website. In addition, the digital image unlike a film image can be easily altered after the camera records the picture.

Some media are more easily controllable than others. TV and radio stations are large, expensive to put in place, and immobile. Hence, governments found it easy to control them. Such dissemination media as the audio & video cassette, the xerox machine, and the PC with an Internet connection are much more difficult to control – witness the inability of the Shah's regime in Iran to prevent the dissemination of Khomeini's sermon by audio cassette, the inability of the Soviet government to stop the xerox copy distribution of "Samizdat" politically subversive literature, and the difficulty with which the U.S. Government has had in shutting down Al Queda websites and stopping the Internet distribution of pornography.

# Information – What is it?

- The term has several definitions because it is a term that embraces many different things
- We will get into the various definitions during this course
- We will start out by briefly:
  - Looking at how the brain generates information
  - Discussing different categories of information
  - Looking at information from both a content and an individual perspective

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# The Human Brain and Information

- Information originates in the combination of sense perceptions and data stored in human memory.
    - Recall of related information in memory
    - Recognition and storage in short-term memory
    - Linking to other memories
- By combining sense perceptions with knowledge in long-term memory, the brain creates new knowledge

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**Recall of information in memory -** When we encounter certain patterns of sensory data, the mind calls up the most appropriate category of information from past memory in order to recognize what it is perceiving

**Recognition -** Once formed, the perception in the form of a recognized, named, or categorized representation goes into short-term memory

**Linking to other memories –** Once in short-term memory, the representation is linked to other information in long-term memory. Thus, for example, the perception of George Washington on a dollar bill generates a recognized representation in short-term memory. This, in turn, may trigger a recall of both Washington's image and facts about his life

By integrating present sense perceptions with categories or knowledge structures in our long-term memory, the brain or mind is able to create the symbol configurations, image patterns, and concepts that constitute human knowledge

# The Human Brain and Information – 2

- The brain seems to have different systems for integrating image input data and other sensory input data with information or knowledge structures in long-term memory
  - One consequence is that we have a memory for pictorial images that greatly exceed our memory for words or names.

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This is why we find it easy to remember faces, but more difficult to remember names.

# Basic Categories of Information

- Information can be broken down into 4 basic categories
  - Semantic
  - Visual
  - Conceptual
  - Procedural
- These categories have distinct implications for use, learning, teaching, and communication

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# Semantic Information

- Semantic information consists of symbols such as words, names, and numbers
  - Can represent things, persons, places, actions, or states of being
  - Semantic symbols have no direct link to the objects signified
  - They can be combined via language syntax to describe present, past, future, actual, conditional, or imaginary realities

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# Visual Information

- Visual information consists of information in the form of visual or pictorial representations of  real and/or imaginary person(s), place(s), or thing(s)

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For our purposes, it excludes:
Alphabetic, symbolic, numeric or coded data (such as printed text, signals, signs, maps, and icons)
Graphic art that depicts abstractions or abstract relationships (such as organizational charts, process flows, flow charts, or logical relationships)

# Information – Content Perspective

- From a content perspective, it consists of the following:
  - Fact – a unique bit of information that identifies an object, person, place, or date
  - Concept – a category of items or ideas that share common features
  - Procedure – a series of steps that show how to make or do something
  - Process – a description of how something works or operates
  - Principles – rules or criteria that predict an outcome

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# Concepts

- Notes about Concepts
  - Can be either abstract or perceptual
  - Have a prototype or best example
  - Have three levels
    - Superordinate
    - Basic
    - Subordinate
  - Expressed in the form of verbal information

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There are three levels of abstraction: 1) superordinate, 2) basic, and 3) subordinate --with the superordinate level subsuming the basic and the basic subsuming the subordinate. Furniture as an example of a superordinate category subsumes the basic-level categories of chair, table, and desk. The basic concept of table subsumes the subordinate concepts of card table, coffee table, dining-room table, and end table. The basic level is the most important since it is highest level at which one can form a prototypal image, its examples share many common properties, and individuals can usually interact with or behave toward all examples in pretty much the same way (i.e. chairs have many more things in common than do articles of furniture, and people uniformly sit on chairs, but do not act uniformly with furniture).

## Information – An Individual Perspective

- From an individual perspective, it consists of 5 rings of data, ideas, and knowledge
  - Internal Information
  - Conversational Information
  - Reference Information
  - News
  - Cultural Information

These rings operate at varying degrees of immediacy in our lives, ranging from the intensely personal that is essential to our physical survival to the most abstract knowledge of our culture, society, and the universe

**Internal information** – the messages that run our body's internal systems and enable them to function

Accessed and stored by such media as X-rays, MRIs, CAT scans and by blood tests and invasive surgery

**Conversational information** – the messages we get from the formal presentations and informal conversations that we have with the people around us

**Formal** – lectures, sermons, classes, etc
**Informal** – conversations, gossip, chitchat

**Reference information** – factual information and data about the physical and social world around us

Includes what we know from both personal observation and what we have learned from others
Includes the content stored in our reference media

**News** – information and data about recent events or happenings

It consists of information about the people, places, and events that engage us, influence our view of the world, or even directly affect our lives

**Cultural information** – the knowledge and lessons gained from our attempt to understand and come to terms with our culture and environment

# Information and Communication Media

- Some key points
  - As noted before, different media have intrinsic defining characteristics that affect
    - The type(s) of information they can convey
    - The speed, completeness, and accuracy with which they can convey it
  - Thus, certain types of information can be more effectively preserved and transmitted in some media than in others
    - This we will get into when we discuss specific media
  - The above considerations have implications for the use of media in teaching, learning, and conveying messages to people

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# The Five Eras of Media

- The history of media can be broken down into five cultural eras:
    1. Non-Literate Cultures
    2. Manuscript Cultures
    3. Print Cultures
    4. Media-influenced Cultures
    5. Media-dominated Cultures

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**History of Communications Media**

# Non-Literate Cultures

- Characterized human societies prior to writing and also the illiterate peasants and lower classes in many cultures after the invention of writing
  - Oral & locality-based cultures

# Manuscript Cultures

- Characterized societies after the invention of writing but prior to printing
  - Literacy was restricted to a small elite
  - Divided into a "high culture" based on literacy and a "low culture" of the illiterate
    - The "low culture" was primarily an oral & locality-based culture, but there was some filtering down of concepts, information, and artifacts from the literate high culture

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# Print Cultures

- Characterized alphabet societies after the invention of printing
  - As time passes, an ever-larger proportion of the population becomes literate
  - While print is dominant, many elements of an oral culture persist
  - Begins with the book and pamphlet
    - Later comes the newspaper, the professional journal, and then the magazine along with other innovations

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# Media-influenced Cultures

- Characterized 19th and early-20th century culture
    - Influenced by the telegraph, the telephone, and a railroad & post office system able to deliver mail and printed material (including newspapers) over vast areas at reasonable speed
    - Saw the emergence of a middle-class culture strongly influenced by the above media

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# Media-dominated Cultures

- Characterized a 20<sup>th</sup> century culture in which radio, television, and later the computer/Internet become dominant influences
  - Increasingly, a "global village"

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# Non-Literate Societies

- Information input is largely local via
  - Personal observation
  - What one hears from neighbors and elders
- Learning consists of rote memorization and learning by apprenticeship, sometimes with the aid of art
  - Most knowledge is some form of rhyme and poetry
    - Thoughts and ideas are normally expressed in the form of proverbs
  - Imagery, especially statuary, is an important form of communication

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**Information Sources -** The primary information sources are personal observation, oral traditions handed down from the elders, local gossip and conversation, and the little news or rumors that filter in from outside

**Proverbs –** In an oral culture, when a dispute arises, the complainants come before the chief of the tribe and state their grievances. With no written law to guide him, the task of the chief is to search through his vast repertoire of proverbs and sayings to find one that suits the situation and is equally satisfying to both complainants. That accomplished, all parties are agreed that justice has been done, that the truth has been served. You will recognize, of course, that this was largely the method of Jesus and other Biblical figures who, living in an essentially oral culture, drew upon all of the resources of speech, including mnemonic devices, formulaic expressions and parables, as a means of discovering and revealing truth. As Walter Ong points out, in !! oral cultures proverbs and sayings are not occasional devices: "They are incessant. They form the substance of thought itself. Thought in any extended form is impossible without them, for it consists in them.

**Imagery –** For early Christians, images were both a means of conveying information and a means of persuasion. As the Greek theologian Basil of Caesarea (c.330-79) put it, 'artists do as much for religion with their pictures as orators do by their eloquence'. In similar fashion, Pope Gregory the Great (c.540-604) described images as doing for those who could not read, the great majority, what writing did for those who could. "In medieval cathedrals, images carved in wood, stone or bronze and figuring in stained glass windows formed a powerful system of com-munication. … To the Middle Ages', according to the French art historian Emile Male (1862-1954), 'art was didactic'. People learned from images 'all that it was necessary that they should know: the history of the world from the creation, the dogmas of religion, the examples of the saints, the hierarchy of the virtues, the range of the !! sciences, arts and crafts: all this was taught them by the windows of the church or by the statues in the porch'

# Non-Literate Societies - 2

- A good memory is highly valued
- Knowledge
    - Its preservation often consists of reciting in front of elders, teachers, and fellow villagers
    - Ritual is often a mode of preservation
    - Often lost over time
    - Held in common

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**Memory Theater -** One common memorization technique that originated in classical times and was developed in Medieval Europe was 'memory theater'  This involved taking a part of a whole to be memorized and linking to a specific part of a familiar building by means of an image relevant to what was to be memorized (such as a word, string of words, argument, or onomatopoeic sound). Recall of the material in the proper order involved 'walking' through the building, recalling the image at each site to trigger the memory link, and then using the recalled material plus the next site image to recall the next part of the material.

**Example -** In 477 BC, a Greek poet Simonides was the sole survivor of a roof collapse that killed all the guests at a large banquet he was attending. He was able to reconstruct the guest list by visualizing who was seated at each seat around the table

**Ritual -**  Historians Asa Briggs and Peter Burke link the public rituals in Europe, including the rituals of festival, during the thousand years 500-1500 as a result of the low rate of literacy at that time. What could not be recorded needed to be remembered, and what needed to be remembered had to be presented in a memorable way. Elaborate and dramatic rituals such as the coronation of kings and the homage of kneeling vassals to their seated lords demonstrated to the beholders that an important event had occurred. Transfers of land might be accompanied by gifts of symbolic objects such as a piece of turf or a sword. Ritual, with its strong visual component, was a major form of publicity, as it would be once more in the age of televised events.

**Knowledge lost over time -** Knowledge tended to be lost over time since individual and even collective memory has its limits. Oral traditions allow for the unconscious adaptation and systematic forgetting  to keep the tradition from being too great a burden on memory. Thus, genealogies which naturally grow over time, yet the additional number of births are countered by dropping older ancestors. Stories and poems gradually drift over time to suit the needs and values of the culture as that culture slowly changes. If values shift to suit changing circumstances, the heroes in the tales acquire new characteristics or cease to be heroes.

**Severe Memory Loss a possibility -** Also, if the elders who have memorized the traditions die for some reason, the society can suffer a major and permanent knowledge loss and suffer demoralization as a result. This is what happened to many American Indian tribes after contact with European diseases.

**All knowledge is public -** No private ownership of knowledge. Knowledge is held in common and entrusted to the tellers of tales, shamans, or poets who preserved and communicated the knowledge by reciting it

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## Writing – The First Communications Media

- Writing first grew out of the need to inventory agricultural surpluses.
  - This required measurement and designation of ownership
- Writing evolved as merchants and priests/scribes used different clay tokens to represent different quantities and commodities

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**Tokens as representations -** Later, the tokens were placed in pots or acquired seals to denote ownership of specific commodities in the quantities noted. As agriculture and urban living gave rise to new products and new variations on old ones, tokens now carried special notches and markings. The pots containing tokens were marked to indicate the type and number of tokens inside. ***Thus, the idea arose of using the external markings on the pots to represent their contents, leading to clay tablets carrying token symbols. The Sumerians then devised the concept of abstract numbers from the concepts of specific quantities of discrete commodities*** -- i.e. "twoness" from the concepts of two olives or two sheep or two measures of wheat. ***This led to signs of numerals that were specific quantities or numbers and pictographs that expressed specific commodities***. Since clay writing tablets were not an ideal medium for writing pictographs (writing had to be done quickly before they clay dried), a cuneiform writing characterized by triangles and parallel lines arose with each sign representing a syllable. To protect sun-dried tablets form being altered, written tablets were baked in fire, creating a medium that was very durable.

# Writing – 2

– 3 Types of writing systems
  - Logographic – one symbol for each word or morpheme (e.g. Chinese, Mayan glyphs, & Egyptian hieroglyphics)
  - Syllabic – one symbol for each syllable (e.g. Japanese *kana*, Mesopotamian cuneiform *, &* Linear B of Mycenaean Greece)
  - Alphabet – one symbol for each sound or phoneme (e.g. Latin, Greek, Cyrillic, Hebrew, Arabic)

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# Writing - 3

- Notes about writing systems
  - No actual writing system employs one type of writing exclusively
    - English uses many logograms – numbers, $, %, &, and @ are common English logograms
    - Egyptian hieroglyphics used pictograms, but Egyptian pictograms also stood for sounds as well as the things they were images of
      - Semitic-speaking persons picked up the system and stripped it down to pure symbols of sound in the form of the alphabet

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# Writing - 4

- Notes about writing systems -2
  - Writing systems arose in Mesopotamia before 3000 BC, in Egypt c3000 BC, in China by 1300 BC, and in Mexico before 600 BC
  - The first type of writing system was the logographic, then the syllabic, and finally the alphabet
  - Early writing was limited to the professional scribes in the employ of the king or the temple priests

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## Writing - 5

- Notes about Chinese writing
  - All Chinese dialects use the same script
  - Chinese script reflects
    - Pictorial representation
    - Use of diagrams
    - Use of one symbol to suggest another
    - Combination of signification and phonetics
  - There are over 50,000 symbols in a Chinese dictionary
    - About a 1,000 symbols count for about 90% of Chinese writing

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**Pictorial representation**. The sun, for instance, was first written as a circle with a dot inside. This was later schematized as a rectangle with a short stroke in the middle. Three peaks stood for a mountain.
**Use of diagrams**. Numbers, for example, were simple strokes and the concepts 'above' and 'below' were represented by a dot above and below a horizontal stroke.
**Suggestion** (and a certain sense of humor). 'Hear', for example, was shown by an ear between two panels of a door, and 'forest' was two trees side-by-side.
**Combination of signification and phonetics**. For example, the character for 'ocean' and 'sheep' are both *yang,* with the same tone. So ocean became *yang* plus the character for 'water'.

| | | | | | |
|---|---|---|---|---|---|
| Y⊣ waw | ⅂ digamma | ⅂ | ⅂ | F | F |
| | | | | G | G |
| I zayin | ⅄ zeta | I | | | |
| Ⅱ heth | ⊟ H (h)eta | ⊟ | ⊟H | H | H |
| ⊗ teth | ⊕ theta | ⊗ | | | |
| ⅃ yod | ⟨ iota | I | I | I | I |
| | | | | | J |
| ⅄ kaph | Ⅹ kappa | Ⅹ | Ⅹ | K | K |
| ⟨ lamed | ⅂ lambda | ↓ | ↓ | L | L |
| ⅏ mem | ⅂ mu | ⅏ | ⅏M | M | M |
| ⅂ nun | Ⴗ nu | Ⴗ | N | N | N |
| ⅁ samekh | Ⅲ xi (chi) | ⊞ | | | |
| O 'ayin | O o(micron) | D | O | O | O |
| Ɔ pe | ⅂ pi | ⌐ | ⌐⅄ | P | P |
| ⅏ sade | ⅏ san | M | | | |
| ⌀ qoph | Φ koppa | ⌀ | ⌀ | Q | Q |
| ⅁ resh | ⅂ rho | ⅁ | ⅁⅁ | R | R |
| W sin | ⟨ sigma | ⟨ | ⟨ | S | S |
| Ⅹ taw | Ⴕ tau | Ⴕ | T | T | T |

**Different Alphabets**

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# The Alphabet

- First alphabet originated c1800-1900 BC by Semitic peoples living in Egypt
- Apparently originated as a kind of shorthand for taking dictation
- Hebrew and other Semitic languages did not and do not have letters for vowels
  - if we were to follow Hebrew usage in English we would write and print 'cnsnts' for 'consonants'.
  - The Greeks developed the first alphabet with vowels

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**Alphabetization -** What made the Semitic languages suitable for alphabetization was that most nouns and verbs were composed of three consonants, fleshed out by vowels which vary according to the context but which are generally self-evident.

**Hebrew -** A Hebrew newspaper or book still today prints only consonants (and so-called semi-vowels [j] and [w], which are in effect the consonantal forms of [i] and [u]). The letter aleph, adapted by the ancient Greeks to indicate the vowel alpha, which became our roman 'a', is not a vowel but a conson-ant in Hebrew and other Semitic alphabets, representing a glottal stop (the sound between the two vowel sounds in the English 'huh-uh', meaning 'no'). Late in the history of the Hebrew alphabet, vowel 'points', little dots and dashes below or above the letters to indicate the proper vowel, were added to many texts, often for the benefit of those who did not know the language very well, and today in Israel these 'points' are added to words for very young children learning to read -up to the third grade or so. Languages are organized in many different ways, and the Semitic languages are so constituted that they are easy to read when words are written only with consonants.

**Greek –** The Greek alphabet (and its descendents) could be used to read and write words even from languages one did not know (allowing for some inaccuracies due to phonemic differences between languages). Little children could acquire the Greek alphabet when they were very young and their

- What the alphabet did:
  - Made possible the creation of lists
  - Converted traditional knowledge into an external object both available for inspection and no longer dependent on memory
  - Led to the concept of history
  - Led to the bifurcation of culture into a "high" culture based on literacy and a "low" culture of the illiterate

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**Lists -** Lists were one of the first forms of knowledge to be arranged and recorded. "Lists made possible new kinds of intellectual activity. They encouraged comparison and criticism. The items in a list were removed from the context that gave them meaning in the oral world and in that sense became abstractions. They could be separated and sorted in ways never conceived before, giving rise to questions never asked in an oral culture. Thus, astronomical lists made clear the intricate patterns of celestial bodies, marking the beginnings of astronomy and astrology. Lists of rulers marked the beginnings of chronologies and history writing.

**Concept of history -** Oral memory deals with the present, and recollection is concerned with what is relevant to the present. Biography in an oral tradition is not as much careful scholarship as it is a creative act, in which events are woven into coherence with the aid of imagination. *But the accumulation of written records makes it possible to separate the present from the past*. Somebody who can read is able to 'look back' at what happened before, in a way that a non-literate person never can. *Written material is necessity 'dated' and 'fixed,' while an oral tradition is 'living' and 'fluid*

**High & Low Culture –** With writing, there was a culture of the scribes who knew the mysterious art of writing, of the literate priests who knew the secrets of the heavens, of architects who designed elaborate palaces, temples, and villas, and of poets, playwrights, historians, musicians, and

# The Alphabet - 3

- What the alphabet did:
  - Affected the way the Greeks saw the physical world
    - Led the Greeks to see the material world as analogous to the alphabetic process
  - Made eventually possible the modern expansion of literacy and democracy
  - Led to the development of law as a regulator of human behavior in place of oral custom and taboo

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**Alphabetic process -** The alphabetic process of making words by taking a set of abstract letters and combining them in myriad forms to make words accelerated the Greek view that this was also the way the material world worked. As letters composed many words, so atoms with different shapes and sizes might possibly compose many things. In this way, different substances might also have different properties because their atoms were differently shaped, differently placed, and differently grouped

**Mass literacy -** The modern expansion of literacy and democracy came primarily because of the simplicity of the Greek and Latin alphabets. With the alphabet, it was no longer necessary for children to memorize hundreds of icons or symbols, or to regurgitate community knowledge in difficult time-consuming poetic recitations.

**Law –** The alphabet with its relatively high degree of literacy fostered the emergence of law codes – written bodies of prohibited and mandated behaviors that were enforceable by the authorities – in place of unwritten customs and taboos. Posted on stone stele or tablets throughout the realm, they could be read and internalized by the populace. Historian Leonard Shlain [*The Alphabet Versus the Goddess. The Conflict between Word and Image*] notes, "Laws play a dominant role in any society acquiring an alphabet; non-alphabetic societies rely more on custom and taboo." Shlain notes that the Chinese and the Egyptians made many contributions to civilization, but written canons of law were not among them. In contrast, the Hebrews, Greeks, and Romans all had codes of law."

# The Alphabet - 4

- Ideographic vis-a-vis Alphabet Cultures – 1
  - The different historical paths that China and the West followed are to some extent a logical corollary of their different writing systems
    - In China, ideographic literacy and the related study of the Confucian classics
      - Created a common, largely-closed oligarchic elite
        - » That was spread all over China and
        - » Whose members had more in common with each other than they did with the non-literate speakers of the local Chinese dialect among whom they lived
      - Fostered a strong cultural conservatism

In pre-Revolutionary China, mastery of a large number of logographs in itself took several years of schooling – a schooling that was affordable only for the sons of wealthy landowners. Mastery of the Confucian classics in order to pass the imperial exams to enter the government bureaucracy took many more years. The elite that was recruited in this manner was, as a result, very conservative – a conservatism enhanced by the veneration that manuscript cultures felt toward the ancients - and not open to the talented poor or the nouveau riche.

# The Alphabet - 5

- Ideographic vis-à-vis Alphabet Cultures – 2
  - In the West, alphabetic literacy had more diverse effects
    - In the manuscript cultures of the Roman Empire and Medieval Europe, there existed a literate Latin-speaking elite with an identity that was separate from the illiterate locals who spoke only local languages and did not speak Latin
      » But this elite was more open and more diverse since it embraced government officials, military officers, clerics, and merchants
    - With printing, it gave each vernacular language a written form
      » The consciousness of speaking and writing a distinct language helped foster an ethnocentrism and nationalism that led to fractured lands, fractious governments, and schismatic religions

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**Stone Stele**

**Clay Tablet**

**Papyrus Scroll**

**Codex Sinaiticus**

**Illuminated Manuscript**

**Rag Paper**

# Writing Media

- Different Types of Writing Media - 1
    - Stone – Was permanent but not transportable
    - Clay Tablet – Had to be written upon before the tablet hardened. Long-lasting but fragile
    - Papyrus – Was light in weight; relatively cheap; easily transportable; suitable for both writing and drawing pictures; suitable for scrolls, but could be supplied only by Egypt
    - Parchment – Was relatively durable and long-lasting; suitable for codex books that contained both writing and drawing; expensive to manufacture, but could be produced anywhere since it was made from animal skins

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**Media that extend in time & media that extend in space -** Harold Innis in his *Empire and Communication* and his *The Bias of Communication* differentiates between media that extend in time and media that extend in space. Media that emphasize time are those that are durable in character, such as parchment, clay, and stone. The heavy materials are suited to the development of architecture and sculpture. Media that emphasize space are apt to be less durable and light in character, such as papyrus and paper. The !! latter are suited to wide areas in administration and trade. The conquest of Egypt by Rome gave access to supplies of papyrus, which became the basis of a large administration empire. Materials that emphasize time favor decentralization and hierarchical  types -of institutions, while those that emphasize space favor centralization and systems of government less hierarchi-cal in character. [citing *Empire and  Communication ,* p26-27]

**Papyrus -** Papyrus was manufactured by compressing crisscrossed strips of pith cut from the stringy stems of the papyrus plant - a weed that grew on the banks of the Nile. Squeezing the strips under heavy stones removed moisture and caused natural sugars in the pith to act like glue, melding the layers. Papyrus was not only the ancestor of paper -- which was named for it -- but also of plywood, which is also manufactured by bonding and compressing cross-laminated sheets of fibrous vegetable matter.

**Parchment -** Papyrus was followed by parchment, which was sheepskin that had been soaked in various liquids, stretched and dried on a wooden frame, scraped smooth on one side with a circular knife, and scoured with a pumice stone. Closely related to parchment was vellum, which was calfskin prepared in the same manner. (p15-16} [Owen]

# Writing Media - 2

- Different Types of Writing Media – 2
  - Rag Paper – Was considerably cheaper than parchment, because it was relatively easy to produce; made a good writing and drawing media; turned out to be a superior media for printing; relatively long-lasting and easily portable
  - *Wood Pulp Paper – Was cheaper than rag paper, thus replacing rag paper in cheaper books and newsprint; not a very long lasting media due to its tendency to degrade as a result of acidification. 19th century invention*

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# Writing Media - 3

- Rag Paper - 1
  - Manufactured by taking linen and cotton rags, wetting them and letting them mold, pounding the rags until their threads become unwoven, soaking them in giant vats, straining the resulting pulp through a sieve-like mold, and then hanging the paper up to dry
  - Invented in China c105 AD; its manufacture spread into Islamic areas with the Islamic capture of Turkestan in 751 and reached Europe c1275.

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# Writing Media - 4

- Rag Paper – 2
  - Unlike parchment which could be produced over wide areas, paper manufacturing took place in cities with plentiful supplies of water and water power. In such cities, there were both cheap supplies of rags and markets for the paper
  - Paper had the following effects in Europe:
    - It helped move learning and education from rural monasteries to the new urban schools and universities
    - It encouraged merchants and traders to become literate in their native vernacular language in order to create and keep needed accounts and records.
    - Paper led to the creation of a body of manuscripts in the vernacular as well as in Latin

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The high cost of parchment had tended to limit its use to the creation of key legal documents (such as deeds and charters) and the duplication of monastery manuscripts. Paper, being much cheaper, could be used by merchants and traders, who were literate in their own language but not necessarily in Latin, and also by university scriveners and students. Thus manuscript Latin copies of the Bible, the Church Fathers, and classical authors now became accompanied by manuscript copies of records, accounts, Medieval poetry, letters, and songs – some in Latin but even more in the vernacular.

# Manuscript Societies

- Society consists of a high literate culture and a low village culture
- Written laws replace oral customs
- Governmental administration comes under the dominance of the literate
- Forgery becomes possible

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# Manuscript Societies - 2

- Texts tended to be read aloud even to those who could read
- Letters and documents were quasi-public
- Writing served as input into the oral world
- Manuscripts had incipits and chapter/verse designations rather than titles or page numbers

**Reading aloud -** It was common, even for people who could read, to have letters read aloud to them. Our modern practice of 'auditing' comes from this practice of hearing accounts read aloud to those concerned.  It was this habit which explains why texts sometimes carried explicit warnings such as: 'Do not read this in the presence of others as it is secret.' This habit also explains why writing fell under the discipline of rhetoric in the schools -- writing was meant to be read aloud. {a habit which persists in the reading of wills}

**Texts  are Quasi-public -** For the most part, medieval letters were quasi-public documents written to be collected and publicized in the future and intended to be read by more than one person. Hence, they often followed a common format. People became familiar with written materials by hearing others read or recite the material rather than reading it themselves. Listening to others read was customary in both the family and academia.

**Writing as input  –** In the words of media historian Walter Ong, "*Writing served largely to recycle knowledge back into the oral world, as in medieval university disputations, in the reading of literary and other texts to groups, and in reading aloud even when reading to oneself.*"

**Incipits -** For visual location of materials in a manuscript text, pictorial signs were often preferred to alphabetic indexes. Manuscripts lacked title pages and often titles -- they were normally cataloged by their 'incipit' -- the first words of the text. The referring to the Lord's Prayer as the 'Our Father' is a lingering use of the incipit as is the tendency to refer to papal encyclicals by their incipits rather than formal titles -- e.g. "Rerum Novarum," "Pacem in terris" It was also typical of manuscripts that items within were cited not by page number as were printed works written after the invention of printing but by chapter and verse as in the Bible or classical writings -- thus we cite Luke 4:5-6, not the Bible, p1173 nor Luke, p1173. One reason was that two handwritten copies of a single work, even if copied from the same source, almost never corresponded page for page, particularly if it was a long document and the handwritten copies were made by different

- Books are treasured items
- The manuscript book had interesting corollaries
- Word separation and punctuation of text did not become standard until the later Middle Ages
- The sermon and public readings served as news dissemination media
- What was ancient was venerated

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**Books as treasured items –** Working 6 hours a day, it took a monk or later a scrivener 10 to 15 months to copy a Bible. Hence, books were extremely costly to produce. As a result, they were often chained to lecterns or library desks so that they would be available for consultation and also protected from theft.

**Interesting corollaries –** The need for books in the High Middle Age universities and cities led to cursive writing, the creation of small portable books, the use of quill pens, a growing use of abbreviations, and the mass copying of official texts and textbooks by numerous copyists and scribes – many of whom were poor students who copied texts as a means of economic support. Many a Medieval university student worked his way to his diploma by copying texts as a part-time job.

**Word separation –** In ancient Rome, there was no word separation in written texts and only capital letters were used. Around the turn of the 9th century, miniscule script (lower-case letters) were developed. In the 9th century, scribes began to make word divisions. By the 13th century, word separation had become standard for Latin texts, but not for those in the vernacular. Precisely because the vernacular was easier to under-stand than Latin, scribes were less pressed to aid the reader by inserting inter-word space for the demarcation of boundaries that were impercep-tible to the ear.

**Sermon as news dissemination media –** Sermons at one time were