

HIS102-21 Industrial Revolution©Aug. 26,2002

Raymond J. Jirran

²⁰ William H. McNeill, "Passing strange: The Convergence of Evolutionary Science with Scientific History: Abstract," History and Theory, Vol. 37, No. 1 (February 2001), page 1.

²¹ See, for example, Samuel Hynes, A War Imagined: the First World War and English Culture (New York: Collier Books, Macmillan Publishing Company, 1990), which Dr. Jirran finished reading as part of Tidewater Historians, Inc., October 15, 1992.

²² Ben-Ami Shillony, review of Gregory J. Kasza, The State and the Mass Media in Japan, 1918-1945 in The American Historical Review, Vol. 95, No. 5 (December 1990), pages 1605-1606.

²³ The 1851 Crystal Palace Exhibition in London, mentioned on page 916 in the fifth edition of Chambers, offers an early chronological focus.

²⁴ John M. Staudenmaier, "Comment: Recent Trends in the History of Technology," The American Historical Review, Vol. 95, No. 3 (June 1990), pages 717-720.

²⁵ "Extract of a Letter from Wm. Farmer, Est., of London, to Wm. Lloyd Garrison, June 26, 1851—`Fugitive Slaves at the great Exhibition.'" in William Still, The Underground Rail Road: A Record of Facts, Authentic Narratives, Letters, &c., Narrating the Hardships Hair-breadth Escapes and Death Struggles of the Slaves in their efforts for Freedom, as Related by themselves and others, or witnessed by the author; together with sketches of some of the largest stockholders, and most liberal aiders and advisers, of the Road (Chicago: Ebony Classics: Johnson Publishing Company, Inc., 1970 (originally copyrighted in 1871 by William Still), page 391.

²⁶ John M. Staudenmaier, "Comment: Recent Trends in the History of Technology," The American Historical Review, Vol. 95, No. 3 (June 1990), pages 717-720.

HIS102-21 Industrial Revolution©March7,2000

HIS102-21 Industrial Revolution©Aug. 26,2002

Raymond J. Jirran

⁶ Carroll Pursell, review of Hugh G. J. Aitken, The Continuous Wave: Technology and American Radio, 1900-1932, The American Historical Review, Vol. 92, No. 2 (April 1987), pp. 499-500.

⁷ Anthony?, Atlas, Vol. ?, No. ? (June, 1976), p. ?. This is worth three points per hour for the first student correctly completing this documentation. There may be a full run of this at ODU.

⁸ ibid.

⁹ Lawrence J. Jankowski, review of David M. Stone, Nixon and the Politics of Public Television, Presidential Studies Quarterly, Vol. XVII, No. 1 (Winter 1987), pp. 172-174.

¹⁰ It is actually 9.3 hours per week. The Wall Street Journal, January 9, 1988, page A1?.

¹¹ Carlin Romano, review of Philip Marchand, Marshall McLuhan: the Medium and the Messenger, in The Washington Post National Weekly Edition, May 8-14, 1989, page 35.

¹² Dorothy G. Singer and Jerome L. Singer, "Is Herman's Imagination Going Down the Tube?" The Chronicle of Higher Education, April 23, 1979, p. 56.

¹³ Frank A. Kafker, review of Jeremy D. Popkin, Revolutionary News: The Press in France, 1789-1799 in The American Historical Review, Vol. 96, No. 4 (October 1991), pages 1205-1206.

¹⁴ Arnold Joseph Toynbee is indexed in the fifth edition of Chambers on page 772, where the relationship between the two men is described in a footnote.

¹⁵ Deborah Epstein Nord, review of Alon Kadish, Apostle Arnold: The Life and Death of Arnold Toynbee, 1852-1883 in The American Historical Review, 92 (December 1987): ?? 12.

¹⁶ Steven E. Schoenherr, review of James Schwoch, The American Radio Industry and Its Latin American Activities, 1900-1939, in The American Historical Review, Vol. 96, No. 4 (October 1991), page 1169.

¹⁷ Theodore S. Feldman, review of Robert Marc Friedman, Appropriating the Weather: Vilhelm Bjerknes and the Construction of a Modern Meteorology in The American Historical Review, Vol. 96, No. 1 (February 1991), page 133.

¹⁸ Stephen Philip Kramer, review of Jean-Noel Jeanneney and Monique Sauvage, editors, Télévision, nouvelle mémoire: Les Magazines de grand reportage, 1959-1968 in The American Historical Review, Vol. 88, No. 5 (December 1983), pages 1275-1276.

¹⁹ Hue-Tam Ho Tai, "Review Essay: Remembered Realms: Pierre Nora and French National Memory", The American Historical Review, Vol. 106, No. 3 (June 2001), page 909.

HIS102-21 Industrial Revolution©March7,2000

HIS102-21 Industrial Revolution © Aug. 26, 2002

Raymond J. Jirran

J. Conclusion

In the final analysis, communication is about language. The incompatible inseparables at work here are those between the vernacular, or language as spoken by the people, and Latin, or language as spoken by the intellectual specialist. The question at work in the identity of Western civilization is who will control knowledge. So long as the answer to that question remains that no one has permission to control knowledge, Western civilization will retain its identity. The history of Western civilization is the history of letting knowledge and truth have the final say over politics and policies.

Comments on the Seventh Edition of Chambers, pages 870-877

In the opinion of the professor, Chambers is the most scholarly textbook on the market. Chambers well represents mainstream thinking in the history profession. The professor, however, disagrees in many significant ways with mainstream thinking. Some of these disagreements are set forth above and others in the following comments.

Page Column
Paragraph
Line

873 caption For more, see the caption on page 950.

Endnotes

¹ See, for example, Frank A. Kafker, review of Jeremy D. Popkin, Revolutionary News: The Press in France, 1789-1799 in The American Historical Review, Vol. 96, No. 4 (October 1991), pages 1205-1206.

² P. William Bane and Stephen P. Bradley, *The Light at the End of the Pipe: A much faster and easier-to-use Internet will stimulate the introduction of new services and possibly even significant social metamorphoses*, Scientific American, October 1999, page 112.

³ Material on the third Industrial Revolution is drawn from Algin B. King, "The Need for American Management to Recognize the Impact of the Third Industrial Revolution on the Business firm," Peninsula Business--Economic Report, Vol. IX, Nos. 6 and 8 (February and April 1986). King, in turn, cites Alan Raymond; Peter Drucker, Toward the Next Economics; Alvin Toffler, The Third Wave; and a recent study by the Union of International Associations. While the original Algin article may not be readily available anywhere except Christopher Newport College where it originated from the Office of Continuing Education and the Bureau of Business/Economic Research, the sources Algin cites should be more generally available.

⁴ Pursell and Kranzberg, A History of Science and Technology, p. 651.

⁵ *ibid.*, p. 661.

HIS102-21 Industrial Revolution © March 7, 2000

HIS102-21 Industrial Revolution © Aug. 26, 2002

Raymond J. Jirran

H. Japan

The State and the Mass Media in Japan, 1918-1945 by Gregory J. Kasza is part of a newly developing history of mass media. Before World War II, Japan had both an excellent sophisticated mass media and an extremely repressive censorship. Mass media included newspapers, magazines, radio, and movies. Japan was not alone in its censorship. Britain and France had comparable restrictions.²¹

Japanese military elite was able to utilize the media to mobilize the people, like the Italians, and unlike the Germans, who needed brute force. Japanese willingly accepted even a more stringent censorship than that imposed by the vicious propaganda of Joseph Goebbels in Germany. Japanese used their tightly controlled media for a benevolent purpose, namely, to modernize. In this, Japan was like Egypt under Abdul Nasser from 1952 to 1970 and Peru under Velasco Alvarado from 1968 to 1975.²²

I. Technology

Historians have identified three stages for incorporating technology into society. The first is invention as a solution to a technical problem, for example the invention of the airplane. The second is research and development, for example the space program. The third is innovation, for example, what Thomas Nelson Community College is doing to help businesses manufacture and market newly developed technology for domestic use.

Technology is also a component of social systems. As such, technology develops as a result not only of technical factors, but also of political, economic, and societal as well. The development of the uses of electricity has been studied in this way.

The 1851 Crystal Palace Exhibition in London, mentioned on page 721-722 in the sixth edition of Chambers, offers an early chronological focus.²³ The Crystal Palace was nicknamed the "American System." The Europeans regarded the glass structure framed with iron as the result of the development of interchangeable parts in the United States. Interchangeable parts composed a segment of the metal parts industry, which moved from guns to sewing machines, to typewriters, to bicycles, and the automobile.²⁴

At least one Englishman was proud that social parts did not transfer from the United States. As he worded it, concerning "Southern Bloodhounds" who "probably, for the first time in their lives, they felt themselves thoroughly muzzled; they dared not even to bark, much less bite. Like the meanest curs, they had to sneak through the Crystal Palace, unnoticed and uncared for; while the victims who had been rescued from their jaws, were warmly greeted by visitors from all parts of the country."²⁵

The development of uniformity came as a blow to the highly skilled craftsmen, the artisans of old. Depending on the palace, the political results of the changes were either peaceful or violent. There is a mutual interface between the effect of social structure on technology and the effect of technology on social structure.²⁶

This interface is reflected in two sayings by Dr. Jirran, "the pill and the typewriter" are responsible for liberating women and "living better through chemistry--in the back seat of one's automobile." These foggy aphorisms are designed to point to the direction in which research is going, rather than to offer premature clarity about the historical significance of what has been taking place.

Comment: There is an artistic aspect of the new technology. As ?? puts it, "The inclusion of oak trees and machine-made commodities under a roof of iron and glass is seen as, for a moment, resolving the contradiction between the new technology of the urban world and the persistent dream of the garden [of Eden]."¹ Industry, nonetheless, pushes Western civilization along in somewhat artless fashion.

Unable to verify documentation in Staudenmaier, AHR 6/90, 717-720.

HIS102-21 Industrial Revolution © March 7, 2000

HIS102-21 Industrial Revolution©Aug. 26,2002

Raymond J. Jirran

The notion of weather front originated in 1919 and 1920, with the notion of polar front, useful for the activities of Norwegian fishermen. The airplane gave a third dimension to weather observations. As Theodore S. Feldman puts it, "Scientific theory was based on practice and built on opportunity."¹⁷

In other words, the demands of capital were determining political outcomes. Political demands were not determining capitalist outcomes.

The system used to build overseas television empires has become standardized. The company first invests in a certain local station. The company begins offering material and technological services to the station, much as if the station were a U. S. company affiliate. In truth, the network has much to offer that is tempting: financial support, administrative or technical assistance, personnel training, already-prepared programs, and commercial contracts. The cost to the country is to create a premature desire, through advertising, for consumer products at the expense of such basic needs as education, health, and fundamental economic development.

As of February 1990, CNN, Ted Turner's network was the only worldwide network. NBC and Cablevision were launching a second world-wide network. In December 1992, Dr. Jirran was unaware how NBC and Cablevision were progressing. Direct satellite communications was much more of a reality in Europe than the United States. Marketing procedures bear watching.

G. Historiography

What all of this means is little known because the history of television is just developing. For this reason, the use of the past tense seems awkward in some parts of this lecture. History, however, is necessarily about the past. French historians have been the first to explore the history of television.¹⁸

Prior to May 1968, French television under DeGaulle was severely restricted. After DeGaulle, those restrictions became even worse. The Professor does not yet know what happened under Mitterand (1981-1995).¹⁹ By comparison, U. S. television has been a leader in the development of freedom of expression.

William H. McNeill, recognized in the syllabus as foundational to the Professor's understanding of Western civilization, wrote the following in 2001.

...it is time for historians to take note of the imperial role thus thrust upon their discipline by making a sustained effort to enlarge their views and explore the career of humankind on earth as a whole, thus making human history an integral part of the emerging scientific and evolutionary worldview.

Tentative suggestions of how this might be addressed, focusing on changes in patterns of communication that expanded the scale of human cooperation, and thus conduced to survival, follow....²⁰

As the French Abbé Sieyès put it so well, "The people or the nation cannot speak, cannot act but through their representatives." The French Revolution has come to mean that the people can only be heard through their representatives, chosen by themselves, rather than by their betters.

HIS102-21 Industrial Revolution©March7,2000

HIS102-21 Industrial Revolution©Aug. 26,2002

Raymond J. Jirran

F. Introduction

Historians used to study the press at the time of the French Revolution as an effect, rather than as a cause, of what was happening. Recent examinations have regarded the press as a source, though limited, for:

the spread of information, the exchange of ideas, the interpretation of events, and political consciousness. It helped to create a new political culture marked by popular sovereignty, by public discussion and participation, and by partisan politics that threatened as well as encouraged representative government.¹³ The story is not quite ahead of itself.

Dr. Jirran likes to fashion modern history from Galileo, who said (ca. 1610) that north and south was not the same as up and down, to Newton who said (ca. 1725) that whatever went up had to come down, to Einstein who said (ca. 1925) that whatever went up did not necessarily have to come down, to Ted Turner who said (ca. 1985) "Hello, Mao." Only with the 1992 edition of this lecture was Dr. Jirran reformulating his understanding of what makes modern, modern. Modern history is characterized by global communications, seen first in Columbus and only later in Ted Turner and CNN.

Originally, the title for this topic was "Latin America." Something Latin is most appropriate. The impact of television upon Latinos was the particular angle chosen to open up the subject. Television then came to be recognized by Dr. Jirran as the key to the meaning of The Industrial Revolution and the title was changed accordingly.

The phrase "industrial revolution" was coined by Arnold Toynbee as a tool for investigating the history of the economy. Toynbee was caught up in the continuing liberal dichotomy between government intervention and the right to privacy. This Arnold Toynbee (1852-1883) is not the same as Arnold Joseph Toynbee (1889-1975) of the twelve-volume A Study of History (1934-1961) on the rise and fall of twenty-five civilizations and the rise of Western Latin Christendom. Arnold Joseph Toynbee is indexed in the sixth edition of Chambers on page 1053.¹⁴ A Study of History is mentioned on page 1310.¹⁵

Toynbee had an elite sense of tragedy in changing the status quo. Dr. Jirran brings a preference-for-the-poor sense of success in that same changing of the status quo. Knowledge brings change and the radio brought an explosion of access unparalleled since the Gutenberg printing press.

Latin America offers a case study. Early in the Twentieth Century, the U.S. Rubber and United Fruit companies brought radio into Latin America expressly for expanding commercial opportunities. During World War I, the United States government became interested in taking over all radio operations, especially for naval purposes. During the 1920s a worldwide government-industrial communications complex was developed. By 1937 large United States research laboratories found easy access around the world to radio frequency allocations dominated by standards set by the United States.¹⁶

Weather information is important not only to the navy, but to commerce as well. The radio was a great help disseminating weather information. The development of meteorology merits comment.

HIS102-21 Industrial Revolution©March7,2000

HIS102-21 Industrial Revolution©Aug. 26,2002

Raymond J. Jirran

details rather than by way of glamorous breakthroughs. The first Mercedes was built in 1881.⁵ After the automobile, came the airplane, radio, and on to television.

D. Politics

What moved radio from spark (telegraph or FM) transmission to a continuous wave amplitude (voice or A.M.) transmission was the commercial potential for broadcasting entertainment. RCA, the Radio Corporation of America, formed in 1919, was the chief beneficiary of this potential. Science, technology, government, and business interests effectively met in RCA and have continued to combine in similar enterprises ever since.⁶

Television is now without a doubt the most effective medium for mass communication the world has known, a more truly industrial revolution than that associated customarily with coal and iron. According to RCA, there were more televisions in the world in 1976 than there were telephones: 364 million to 360 million.⁷ Control of television is vital, since television ultimately shapes how a society thinks. A sense of both what to look for and the continuing battle, may be found in the fact that newspaper journalism took from 1695 to 1865 to get rid of government interference at either the point of production or distribution.⁸

More recently, Richard M. Nixon was very sure that power meant control of television. He tried to gain control of the Public Broadcast System, but was done in with the gavel-to-gavel broadcast of the Watergate Hearings. The power of television is generally assumed to have a negative impact upon education.⁹ Dr. Jirran remains unconvinced.

Marshall McLuhan (1911-1980) maintained that television was the most important discovery since that of fire. He argued that television had replaced the linear, book-oriented culture with an audio-visual culture. By 1976, McLuhan viewed the affluent young as a group of semiliterates. In one generation, North American society jumped from visual-mechanical to mushy neotribal. McLuhan felt students had to be made literate, disciplined, and competent. The Wall Street Journal has noted that while nearly seventy-five per cent of college students have access to television they average only about half the hours of viewing per week when compared with all viewers over age eighteen.¹⁰ Few scholars pay much attention to McLuhan any more. After McLuhan had the single good idea, phrased, as "the medium is the message "and" the global village, he never had another worthy of scholarly merit.¹¹

Students sometimes wonder how the mind take-over occurs. Human thinking apparently requires that the right hemisphere of the brain process images, such as those from television; that the left hemisphere process words such as those from books. By overemphasizing images at the expense of words, television may well be damaging the ability to think.¹² McLuhan sent his own children to Ireland to traditional, i.e. television free, classically based schools.

E. Conclusion

In this topic, the student has examined the Industrial Revolution from several perspectives. Students are reminded to read, study, and think.

Supplement

HIS102-21 Industrial Revolution©March7,2000

HIS102-21 Industrial Revolution©Aug. 26,2002

Raymond J. Jirran

A. Introduction

Political and economic implications extend from the French Revolution to the Industrial Revolution. Dr. Jirran regards the Industrial Revolution as more about heads than hands, more about the transfer of mental energy than the transfer of physical energy. Mental energy is the stuff out of which political and economic changes flow.¹ The course goal for this topic is **to evaluate the industrial revolution** according to the people, places, and times concerned relative to the degree of certitude merited.

B. Waves

The significance of the Industrial Revolution, negatively, is that the Industrial Revolution replaced human energy with mechanical energy. "Negatively" means something that does not have to be done any longer. Positively, and more importantly, the Industrial Revolution is about communications. The space age is, above all, the age of the communications satellite.

The Third Wave, the third Industrial Revolution, may be symbolized by the computer, linked to a satellite. In 1994 e-mail messages replaced telephone calls at a rate greater than that at which households acquired personal computers. In 1994, less than one percent of U.S. households was on-line; by 1999 a third were on-line.² Satellite communications have made the means of market entry and competition available to most industrial nations and to some developing nations as well: in South and Central America, Brazil, Argentina, and Mexico; in the Far East, Taiwan, Korea, and Hong Kong.³ Because we all market ourselves within a global economy, the changing nature of that economy has particular significance for each of us.

The first industrial revolution, which occurred about 10,000 years ago, is usually called the Neolithic Revolution and refers to changes in food-production. The hoe symbolized this revolution. The railroad symbolized the second industrial revolution. The second part of the Industrial Revolution mentioned in Topic 11, Energy, is the second part of this "second" industrial revolution. The second, the Industrial Revolution, is frequently capitalized.

During the Industrial Revolution, corporations were organized in a hierarchical manner, like a pyramid. The third industrial revolution was characterized by corporations organized through networks of a variety of functions. Third Wave corporations required functional, financial, and personnel flexibility unknown earlier. The analogies used for these networks were on the one hand the solar and on the other hand the neurological systems. Functions suitable for vertical disaggregation included manufacture, assembly, research and development, capitalization, marketing, and sales.

Information, particularly computer-interpreted information obtained from satellites, was used to integrate the Third Wave market place. To my mind, this fact makes communications the key to the significance of the Industrial Revolution. If the hoe gathered villages and railroads continents, the computer gathers universes.

C. The Automobile

First came horses, ships, railroads, and then, the automobile. The American Henry Ford did not invent the automobile. The American simply mass-produced the automobile. Nicolaus August Otto, a traveling salesman in the Rhineland,⁴ developed the earliest recognizable ancestor of the modern automobile engine in 1876. Further advances came through a continuous refinement of

HIS102-21 Industrial Revolution©March7,2000