

OLLI Lecture #1**“The Age of Victoria”****September 20, 2011**

I chose the title of this course, “The Age of Victoria,” after some lengthy deliberation. It could easily have concentrated on Victorian England, which by itself would have been a fascinating topic. Or it could have been “Europe in the Age of Victoria,” a far broader subject. But it struck me that while Victoria reigned as England’s Queen (1837-1901) the world not just England underwent a profound transformation.

Recently, my three siblings and I spent an afternoon reminiscing about our lives together while our conversation was videotaped in front of an audience of family members. We hope that the result will be an heirloom for our family. You won’t believe it, but I’m the youngest of the four of us by at least 10 years.

One of the themes that emerged from that conversation was the astounding changes that we had witnessed in our lifetimes: space flight, atomic weapons, the Internet, computer science. We all agreed that life in the twenty-first century is very different from what we all experienced in the twentieth. The pace of change had been breathtaking.

The same, I think, could be said of the Age of Victoria. More than any previous time in human history the nature of human existence on this planet was transformed. When Victoria was born in 1819, her native Britain was still a predominantly agricultural society. By the time of her death at the dawn of the 20th century the British were obliged to import much of their food and the Industrial Revolution, launched on Britain’s shores, was expanding across the globe at a dizzying pace.

One writer described the transformation as follows:

The bourgeoisie has disclosed how it came to pass that the brutal display of vigor in the Middle Ages, which reactionaries so much admire, found its fitting compliment in the most slothful indolence. It has been the first to show what man's activity can bring about. It has accomplished wonders far surpassing Egyptian pyramids, Roman aqueducts, and Gothic cathedrals. It has conducted expeditions that put in the shade all former exoduses of nations and crusades.

The author of those enthusiastic remarks was none other than Karl Marx (1818-1883) writing in his *Communist Manifesto* (1848).

It's hard to argue with Marx about the profundity of change that was occurring around him. When Victoria was born, the fastest mode of transportation in the world was the sailing ship (pretty much the way things had been since the fall of the Roman Empire). The quickest form of communication was the semaphore whose early accounts of the defeat of Napoleon at Waterloo in 1815 had made the Rothschild family some of the richest bankers in Europe. Cities were growing everywhere in Western Europe, thanks largely to new food sources arriving from the overseas colonies; therefore, life expectancy was increasing. In fact, the population numbers in England were increasing at such a spectacular rate that in 1798 the Rev. Thomas Malthus was inspired to write his famous Principle of Population, warning that "the power of population is indefinitely greater than the power in the earth to produce subsistence for man." Certainly, he predicted, that only war and pestilence would hold human numbers in check. These words, I point out, were written before anyone in the world had any notion of germ theory—another revolutionary development of the Victorian Age.

Stroll through the streets of London at the time of Victoria's birth and little had changed since Chaucer's time. Public sanitation was practically unknown; livestock and horses crowded the streets; and whatever order there was, was maintained primarily by the guilds, assisted by royal arms. And royal arms proved to be necessary.

Britain and its allies had been victorious over Bonaparte at Waterloo in 1815 and assigned him to distant exile at St. Helens. But the ideals of the French and American revolutions were still at large. When parliament in 1815 passed the so-

called “Corn Laws,” protecting the landed gentry’s profits with high tariffs on agricultural imports, protests broke out and an Anti-Corn Law League was formed, demanding not only a repeal of those tariffs (which kept grain prices high) but a reform of parliament so that it would not be controlled by the rural squires. Rioting occurred in London in 1816 and the Prince Regent was attacked by mobs in the city the following year. Worse, in 1819, a huge protest rally was staged in Manchester. The army was called in to suppress the demonstrators who opened fire on them, killing 11 and wounding 400. Commenting on this massacre, the Duke of Wellington stated, “Our example will be of value in France and Germany, and it is to be hoped that the world will escape from the general revolution with which we all seem to be threatened.”

He was thinking, of course, of the French Revolution that had swept over Europe after 1789 and was carried as far east as Moscow by Napoleon. Wellington had been instrumental in its defeat and spent his subsequent two terms as Britain’s prime minister attempting to quash political reform in the nation. He failed in that capacity since the Revolution was not only political but economic.

In our time, who imagined in 1960 that computers might transform our economy and even our society? It happened so fast and at first so quietly that we hardly noticed it. I remember a huge debate we had when I was on the faculty at Ferrum between a professor physics and a financial officer, who had just authorized a major expenditure for IBM stand-up hardware. The physicist told him he was wrong and that we should be moving to PCs. Unfortunately for Ferrum, the financial officer won the argument. Likewise, Wellington was embracing the world that he knew and could not envision the revolution that was happening right under his nose and who among us can blame him for not being a visionary? He was, after all, a national hero.

It’s probably too simplistic to say, but in large measure the Chinese were to blame for this revolution. Marco Polo returned to Venice in 1293 to report that the Chinese burned black rocks to provide heat for their homes. Pope Pius II, recounting his trip to the British Isles in fifteenth century observed curiously that the residents there burned black rocks to heat their homes. The fad caught on

and soon coal was in great demand; so much so that deep mines were dug to obtain this new energy source. The problem was that the mine shafts filled with water and some efficient means had to be found to pump it out.

Thomas Newcomen (1664-1729) figured it out. Steam power was the answer, he thought. The notion had been around for millennia. The ancient Romans knew about it and so did the Greeks, but since both societies were based on slave labor the idea of labor-saving devices wasn't an appealing one. The Romans even had a steam-powered slot device that delivered a cup of holy water after the insertion of a coin into it.

But Britain had few slaves at home in the seventeenth century and so the need for labor-saving. Newcomen, a Devonshire Baptist preacher, figured it out. Use steam and not human power to pump up the water from the mines. It worked and before he died in 1729 he was a wealthy man. Even more wealthy became James Watt (1736-1819), a Scottish university employee, who took Newcomen's engine and vastly improved its efficiency by adding a separate condenser to its design. This improvisation made the steam engine not only efficient; it changed the course of history by adding a new energy source to human capacities. It didn't take long for people in the West to figure out how to put this energy to use.

The Dutch had long since figured out that wind could supplement human and animal energy; hence, the windmills of Holland. Water, too, provided energy to mills and even the earliest factories (see Mabry's Mill on the Blue Ridge Parkway). But it was Richard Arkwright (1732-1792) who conceived of a way to harness water power to machinery with his "water frame," a water-powered mechanical device that could convert raw cotton into yarn. It took only a few years thereafter for steam engines to replace water power and the Industrial Revolution was off to a breathtaking start. Arkwright had already constructed the first factories in Cromford in Derbyshire. Now they appeared throughout the Midlands and there was no nation in the world that could compete with Great Britain in textile production, especially after steam was applied to the factory process.

Shortly thereafter steam power was applied to existing rail lanes; first for mining coal in Wales in 1804, then in hauling passengers in 1825. Following closely

behind were the Americans who in 1829 completed tracks on the Baltimore & Ohio railroad so that its “Tom Thumb” locomotive could carry passengers all the way to the Blue Ridge Mountains.

It is hard to measure the significance of these events. In terms of the Age of Victoria perhaps the application of steam power to shipping was most critical. Britain already dominated the world’s oceans at the end of the Napoleonic Wars. The Battle of Trafalgar in 1805 demonstrated that the Royal Navy was superior to both French and Spanish naval capacities and henceforth would “rule the waves.” The application of steam power to the British Armada only enhanced Great Britain’s hegemony on the planet’s oceans.

It is to the credit of a Frenchman, however, that the credit for steamships belongs. He was the Marquis Claude de Joffrey d’Abbans, who in 1783 launched his steam-powered “Pyroscaphe” onto the Soane River. It managed a 15-minute voyage. Not long thereafter (1787), James Rumsey of Virginia put his steam-powered ship into the Potomac at Shepherdstown and steamed bravely against the river’s flow (but only three knots). Robert Fulton had a different design and tried to sell it to Napoleon who at the time was considering an invasion of England. While Fulton’s contraption worked and sailed up the Seine, Napoleon sent the American home since he thought it dangerous to have a fire-driven vehicle operating under the waves. Fulton returned to New York and in 1807 dazzled the state with the successful operation of his dependable “Clermont.”

Only a few years later the “Savannah,” a steam powered vessel with sails crossed the Atlantic in a mere 29 days, although some argue that it used sail more than steam. By 1845, the “Great Eastern,” an iron-hulled, steam powered vessel made the same trip in 15 days. Then in 1881 the “Servia,” steam-powered, built entirely of steel, and boasting electric lights crossed the Atlantic in only 7 days.

Close on the heels of these steam marvels came yet another scientific breakthrough that would affect the lives of every person on the planet—the telegraph. Scientists and amateurs alike had been toying with electric power since the seventeenth century but in the eighteenth electric batteries had been devised and just about the time that steam engines began moving spinning

machines, locomotives, and steamships, German and English experimenters applied electric power to communications. Among the first were Wilhelm Weber (1804-1891), a professor of physics at the University of Göttingen and his colleague, Carl Gauss, who installed an operating system at the university as early as 1832. The Englishmen, Sir William Fothergill and Charles Wheaton, adopted that technology in 1837 and used it to create an alarm system for British railroads in 1837. Not until 1844 did Samuel F. B. Morse here in America install his variation on the invention to communicate that famous first message across lines between the Supreme Court in D. C. to Baltimore, “What hath God wrought?” Learning of these events, the Paris-based *Galvani's Messenger* commented, “This is indeed the annihilation of space.”

What, indeed? We are still trying to assess whether this revolution has been as beneficial to humanity as the agricultural revolution that took our species out of the Stone Age. Until the events I have just described, animal power, wind, and wood had been our principal energy sources. Now, in the year of Victoria's birth, a new era was dawning in human history, and for all we know it may have been a great mistake, ushering in global warming on a scale never before known. On that subject, we'll just have to stay tuned.

The woman, Victoria, who reigned over this revolution from 1837 to 1901, was born on May 24, 1819, at Kensington Palace outside of London. She was, according to one source on hand, “a pretty little princess, as plump as a partridge. She was christened a month later as “Alexandrina Victoria,” a name that honored the Russian czar, and the child's mother, Victoire, Princess of Leiningen of Saxe-Coburg (an imperial [German] duchy) and the wife of the Duke of Kent, the fourth son of the late King George III. King George had passed away in 1820 after having grown increasingly embarrassing to the monarchy from his odd behavior from the afflictions of porphyria—an illness that affects not only bodily but mental functions. Still, the English had “muddled through” by establishing a regency for the doddering king under his eldest son, who became George IV upon his father's death in 1820, and was succeeded by his brother, William, who reigned as William IV from 1830 to his death in 1837. He is described by one historian as “dropsical, drunken, [and] stupid.”

He had, nevertheless, fathered 10 children; none of them legitimate because their mother was his mistress, the actress Dorothea Jordan. That left only the Duke of Kent, King George's youngest son, to produce a legitimate heir. He was at the time, however, 50 years old, and had lived for 27 years with a Madame de St. Laurent, a relationship that had produced no children. At that age the Duke married Victoire and shortly thereafter "Alexandrina Victoria" was born. There is substantial genetic evidence that some other DNA was born into that pregnancy (A. N. Wilson, The Victorians).

Perhaps it was symbolic that on October 16, 1834, a fire broke out and destroyed the House of Lords at Westminster Palace. Only three years before Victoria assumed the throne, this bastion of British aristocracy crumbled in flames. More of that demise of aristocratic Britain was to fall into ruins during the Queen's long reign.