

Program: Centuries of Change

Speaker: William H. Dick, MD, Sciencetech Club Historian

Attendance: 108

Guests: Rodney Basson, Richard Beach, John Bellinger, John Gallagheu, Nora Hovee, Patrick & Fran Huehls, Leslie Keener, Paul Kellogg, ,

Scribe: William Dick

Editor: Carl Warner

Centuries of Change

The author of the book "Centuries of Change", Ian Mortimer, contends that the 16th and 19th centuries saw the most change. I would state that the 19th century saw the most change that influences our material world today. However, the most important century in my opinion is the 18th century which brought the intellectual underpinnings of our society today: democracy, freedom of speech, freedom of religion, freedom of the press, personal property, and the rule of law. I have added a few people to the list of important individuals who were not in Mr. Mortimer's collection. To me, other than the freedoms secured by America, the discovery of the DNA double helix and the mapping of the Human Genome are the most important discoveries of the last 1,000 years. Members can decide for themselves who were the key people of the last 1,000 years.

11th Century

Roman Catholic Church; Europe Civilizing; Holy Roman Emperor – German, Austria & the Low Countries, Rise of England

12th Century

Church Progress, Crusades, University Education; England – Rule of Law

13th Century

Rise of Monks, Spain all Christian except Granada, Commerce – Wool, Government – Magna Carta, Record Keeping

14th Century

Rise of Nationalism – England, France, Germany, Italy & Spain; Capitalism Increased, Medicine – Famine, Black Death; Avignon Popes

15th Century

Age of Exploration – Bartholomew Dias, Christopher Columbus, Vasco de Gama, Pedro Cabral, Amerigo Vespucci; Printing; Warfare – Turks Take Constantinople, Gunpowder from China, Muslims Forced from Spain; Renaissance

16th Century

Protestant Reformation – Martin Luther, Henry VIII, Elizabeth I; Exploration – Portuguese to China, Magellan Around the World; Foods from New World – Turkey, Potato, Tomato, Maize, Cocoa, Vanilla, Dyes, Tobacco; Triangle Slave Trade; Warfare – Firearms, Triangle Forts; Science – Copernicus, Brahe – Earth Moves Around the Sun; Architecture, Geography, Astronomy; Education – More Universities, Literacy Improved (in Women, too), Written Word; Calendar – 1582 Pope Gregory XIII Dropped 10 Days from Calendar

17th Century

Telescopes – Leiden, Gdansk, Copenhagen, Paris; Science – Isaac Newton, Leibnitz – First Mechanical Calculator, Leeuwenhoek – Microscope, William Harvey – Circulation of Blood, Galileo – Moons of Jupiter, First Pendulum Clock, Robert Hooke – *Micrographia*, Kepler – Motion of Planets, Francis Bacon – *Novum Organum*, 1660 - Royal Society of London, Quinine for Malaria; Climate – Little Ice Age, Smaller Harvests; Exploration – France – Canada, English & Dutch – North America, Dutch – East Indies, England – Manhattan, Portuguese – China; Medicine – More Knowledge & More People Visit Physicians, Not Clergy; Economics – Trade & Shipping, Rise of Middle Class, Merchants, Lawyers

18th Century

Century of Revolutions – American, French, Industrial, Agriculture; Enlightenment – Locke, Montesquieu, Voltaire, Rousseau; Arts – Music – Mozart, Bach, Handel, Haydn, Vivaldi; Painting, Furniture Design; Communication – Transport, Mail, Waterways, Speed of Information; Flight – Montgolfier Bros., A.P. Blanchard; Economics – 1776 Adam Smith, Free Trade, Dr. Francois Quesnay, Comte de Mirabeau; War of Independence – Franklin, Washington, Jefferson, Adams; Democracy, Freedom of Speech, Freedom of Religion; Agricultural Revolution – Jethro Tull, Norfolk Crop Rotation, Potato Farming, Animals larger, Farming as Enterprise; Steam Power

19th Century

Canned Food, Gas Cookers, Sewing Machines, Indoor Gas & Electric Lighting; Transportation – Steamboats, Railroads, Bicycles, Automobiles; Communication – Morse Code, Telephone (Alexander Graham Bell) , Radio Messages; Oil & Gas Discovery – Pennsylvania & Indiana; Gold Discovery – 1848 California; Photography – William Fox Talbot & Louis Daguerre; Public Health – 1546 Girolamo Frascastoro, 1796 Jenner, 1846 Semmelweis, 1854 John Snow, 1880 Louis Pasteur, 1890 Robert Koch, Thomas Crapper 1880's; Science – Charles Darwin, *The Origin of Species*; Inventions – Thomas Edison – Electric Lighting, Phonograph, Motion Pictures

20th Century

Health – Largest increase in Life Expectancy (33 years), Vaccinations, Antibiotics, Blood transfusions, Heart & Vascular Surgery, Kidney Dialysis & Transplantation; Transportation – Autos Take Over, Trains Decline (1925), Air Travel, Space Age; Wars – WW I, WW II, Korea, Vietnam, Gulf Wars; Media – Newspapers, Films, Radio, TV; Office Work – Specialization, Machines – Typewrites, Copiers, Fax, Computers, Cellphones; Computers – Large Ones, Desk Top, Portable, Internet – August 1991, Email, Digital Storage, Cellphones; Politics – Racial Integration, Decline of Monarchy & Imperialism, Rise of the Rights of Women, Dr. Martin Luther King, Jr.; Photography & Movies – Color Photography & Movies, Polaroid, Digital Photography, Cellphone Cameras; Economics – Store & Bank Credit Cards; Genetics – DNA -Double Helix Discovery; Sports – Amateur & Professional Men & Women, Influence of TV

Principal Agents of Change – Adolf Hitler, Winston Churchill, Franklin Roosevelt, and Jackie Robinson.

21st Century

Human Genome
Internet; Search Engines (Google)
Social Media – Facebook, Instagram, Twitter
Electronic Transfer of Money



William H. Dick