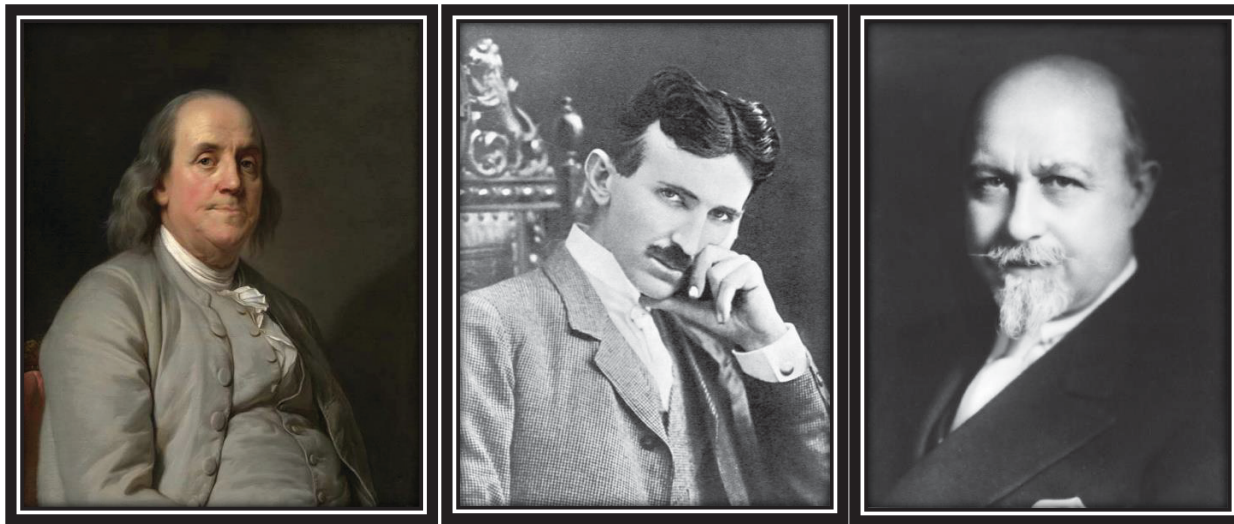


**Benjamin, Nikola, & Walter:**

**Geniuses Who Maximized  
Their Creative Energies**



**By Jonathan V. L. Kiser**

**August 2019**



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Geniuses Who Maximized Their Creative Energies**

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## **Benjamin, Nikola, & Walter: Geniuses Who Maximized Their Creative Energies**

**By Jonathan V. L. Kiser – August 2019**

### **Overview**

This report compares the lives of three historical geniuses: Benjamin Franklin, Nikola Tesla, and Walter Russell. By examining their extraordinary lives in a chronological, time-line basis, observations can be drawn relating to their accomplishments, similarities, and differences during all phases of their lives. These comparisons are supplemented with more than 100 public domain photos, drawings, and related images associated with each remarkable man. Additional insights about them are then presented. Here now is a brief overview relating to Ben, Nikola, and Walter.

Benjamin Franklin (1706 – 1790) was an American polymath (a person of wide-ranging knowledge or learning) and one of the Founding Fathers of the United States. Franklin was a leading author, printer, political theorist, politician, Freemason, postmaster, scientist, inventor, humorist, civic activist, statesman, and diplomat. As a scientist, he was a major figure in the American Enlightenment and the history of physics for his discoveries and theories regarding electricity. As an inventor, he is known for the lightning rod, bifocals, and the Franklin stove, among other inventions. He founded many civic organizations, including the Library Company, Philadelphia's first fire department, and the University of PA.

Nikola Tesla (1856 – 1943) was a Serbian-American engineer and physicist who made dozens of breakthroughs in the production, transmission, and application of electric power. He invented the first alternating current (AC) motor and developed AC generation and transmission technology. Though he was famous and respected, he was never able to translate his copious inventions into long-term financial success—unlike his early employer and chief rival, Thomas Edison. Tesla was one of the most important scientists to ever live.




Walter Bowman Russell (1871 – 1963) was an impressionist American painter (of the Boston School), sculptor, natural philosopher, musician, author, champion ice skater, scientist, builder and more. The *New York Herald Tribune* called him "the modern Leonardo," a Renaissance man for the twentieth century. Although considered a polymath, Russell was not an academician. Along with his wife, Lao, Russell established the University of Science and Philosophy, complete with home study course, to examine who we are as humans, what we are, and the purpose of existence. One of his primary messages was that genius is inherent in everyone!

**Exhibit 1 – Ben, Nikola & Walter’s First 10 Years**

<b>Age</b>	<b>Ben Year &amp; Activity</b>	<b>Nikola Year &amp; Activity</b>	<b>Walter Year &amp; Activity</b>
<b>Day 1</b>	<b>1706</b> , Franklin was born January 17 in Boston, MA in a small house on 17 Milk Street. His father Josiah was a soap and candle maker. His mother Abiah was a home maker. Franklin was the youngest son and was raised as a Presbyterian. He was the youngest son and had 11 living brothers and sisters.	<b>1856</b> , Tesla was born July 10 to Serbian parents in what is now known as Croatia. His father was an orthodox priest and his mother was homemaker who invented many household items. He had 2 older sisters, an older brother, and a younger sister. During his birth, lightning struck, and his mother called him “child of the light.”	<b>1871</b> , Russell was born May 19 in Boston, MA to Nova Scotian immigrants. Before he could walk or speak, Walter could play any tune he heard with one finger on the piano. A blind neighbor taught him to play the instrument and was the spiritual interchange partner of his childhood.
<b>5 – 8</b>	<b>1714</b> , age 8, Franklin attended South Grammar School showing early talent moving from the middle of the class to the top of it within a year. The following year he attended George Brownell’s English School. He showed great talent for writing and little for arithmetic.	<b>1861</b> , age 5; Tesla watched his brother get thrown from a horse and die and later has nightmares over the incident.  <b>1862</b> , age 6; In school, Tesla did well at linguistics but shined in math. He calculated answers so quickly that his teachers at first thought he was cheating. He also created a crude wooden device that was forced to turn in the flowing water of a brook.	<b>1879</b> , age 7; Walter was playing marbles with other boys, Walter felt the urge to retreat into the solitude of the woods, where, for the first time, he experienced leaving his body and feeling the ecstasy of cosmic consciousness. From then on, he had such an experience every year in May. It gave him both inner peace and inner loneliness.
<b>9 - 10</b>	<b>1715</b> , age 9; Ben completed his final year of schooling. Franklin left school at age 10 to work in his father’s candle shop.	<b>1866</b> , age 10; Tesla experienced a powerful episode of vision flashes and strong bolts of light. He saw a picture of Niagara Falls, felt it’s a waste of water, and knew someday he wouldl go there and capture energy. Regarding the flashes, he said, “These were at first blurred and indistinct. . . but by and by I succeeded in fixing them. I soon discovered that my best comfort was attained if I simply went on in my vision farther and farther getting new impressions all of the time and so I began to travel in my mind. Every night, sometimes during the day; always when alone.”	<b>1880</b> , age 9; Walter left his village school to work as a cash boy in a dry goods store.

Exhibit 1 illustrates that during their first 10 years:

- Both Ben and Water were born in Boston, MA;
- Ben had an early talent for writing, Nikola had an early talent for math, and Walter had an early talent for music;
- Ben and Walter left school at an early age to work and Nikola created his first “energy device” (wooden device that turned via the force of water) at age 6;
- Tesla experienced his first vision flashes at age 10 and Walter had his first out of body experience at age 7.

Franklin Pictures	Tesla Pictures	Russell Pictures
 <p data-bbox="443 1222 583 1252">Young Ben</p>	 <p data-bbox="993 1198 1268 1227">Tesla aged 23, c. 1879</p>	

Source: Public Domain.

**Exhibit 2 – Ben, Nikola & Walter Years 11 Through 19**

<b>Age</b>	<b>Ben Year &amp; Activity</b>	<b>Nikola Year &amp; Activity</b>	<b>Walter Year &amp; Activity</b>
<b>11</b>	<b>1717</b> , age 11; Ben began reading Plutarch, Defoe, and Cotton Mather; Invented a pair of swim fins for his hands; and was briefly indentured as a cutler.	<b>1867</b> , age 11; Tesla became seriously ill with cholera (almost to an unconscious state). He asked his father, "If I get better, may I please go to the Reel Gymnasium to study engineering?"	<b>1882</b> , age 11; Walter continued to work. He earned money as a church organist and by leading small orchestras. His compositions, mostly waltzes, were acknowledged by Ignace Paderewski in Boston in 1891 or 1892, and on a later occasion by him in New York.
<b>12 – 13</b>	<b>1718</b> , age 12; Ben was apprenticed to his brother James, a printer; Blackbeard the Pirate was captured and Franklin wrote a ballad on the occasion.	<b>1868</b> , age 12; Nikola was inspired by his mother's kitchen utensil invention and others she visualized before executing them. Tesla began displaying his obsessive-compulsive disorder (hand washing three times, not able to touch anyone). His mother believed he would change the world and taught him to utilize his ability to mentally visualize his inventions in a 3-D image.	<b>1884</b> , age 13; Russell paid his way into five years of art school by working in various capacities as a musician. He attended <i>Massachusetts Normal Art School</i> and interrupted his fourth year to spend three months in Paris at the Académie Julian. Four instructors helped prepare him for an art career: Albert Munsell and Ernest Major in Boston, Howard Pyle in Philadelphia, and Jean-Paul Laurens in Paris.
<b>14</b>	<b>1720</b> , age 14; Ben moved away from home into a boarding house. He also stopped attending church so he could use Sunday to study.	<b>1870</b> , age 14; Tesla moved to the mosquito-infested swampy lowlands of Karlovac, where he attended an advanced school and discovered his aptitude for physics; a 4-year course only took Nikola 3 years to finish (with honors). He was also bedridden with Malaria. A physics professor made a profound impression, and, because of him, Tesla made up his mind to become an engineer and inventor.	<b>1885</b> , age 14; Walter had black diphtheria and was declared dead when he then had his second great illumination (knowledge about self-healing). To the amazement of his parents and the doctors, he arose from his bed perfectly well.



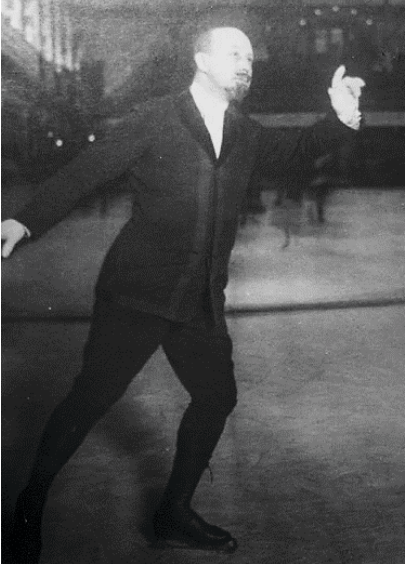


**Exhibit 2 – Ben, Nikola & Walter’s Years 11 Through 19 – Continued**

<b>Age</b>	<b>Ben Year &amp; Activity</b>	<b>Nikola Year &amp; Activity</b>	<b>Walter Year &amp; Activity</b>
<b>15 - 17</b>	<p><b>1722</b>, age 16; Ben became a vegetarian (in part he was motivated by a distaste for flesh, but also because he could save money and buy more books).</p> <p><b>1723</b>, age 17; Ben took over the publishing of the <i>Courant</i> after brother James was jailed due to "contempt" charges. Ben then ran away from apprenticeship, went to New York and then to Philadelphia. In Philly, he gained employment as a printer. He also took lodging with John Read whose daughter Deborah would become Franklin's wife in 1730.</p>	<p><b>1873</b>, age 17; By this time, Tesla fluently spoke Serbo-Croatian, Latin, Italian, French, German, English, and conversed in three more languages.</p>	<p><b>1886 – 1888</b>, age 15 – 17; Walter attended <i>Massachusetts Normal Art School and</i> interrupted his fourth year to spend three months in Paris at the Académie Julian.</p>
<b>18 - 19</b>	<p><b>1724</b>, age 18; Returned home to Boston to try to borrow money from his father to start print shop. Was denied. Returned to Philadelphia and courted Deborah Read. Under encouragement from PA Governor William Keith, Ben traveled to London in order buy printing equipment. Keith's letters of credit for him never materialized and Franklin was stranded in London. Remained in London working as a printer working for Samuel Palmer.</p> <p><b>1725</b>, age 19; Published his first pamphlet: "A Dissertation upon Liberty and Necessity, Pleasure and Pain." Left Palmer the printer for the larger shop of John Watts. Attended theater, read voraciously, and hung out at coffee houses.</p>	<p><b>1874</b>, Nikola turned 18 years of age.</p> <p><b>1875</b>, Nikola turned 19 years of age.</p>	<p><b>1889</b>, Walter turned 18 years of age.</p> <p><b>1890</b>, Walter turned 19 years of age.</p>

Exhibit 2 illustrates that during their years 11 through 19:

- Ben invented swim fins for his hands; Apprenticed as a printer; Continued to write; Moved away from home.
- Nikola was inspired to be an engineer while suffering from a serious cholera illness; was Inspired by his mother's visualized inventions and tutelage; was Inspired by a physics professor; could Speak nine languages.
- Walter continued to work; Composed music; Led orchestras; Paid his way through art school; was Pronounced dead from black diphtheria but fully revived via an illumination of self-healing.

Franklin Pictures	Tesla Pictures	Russell Pictures
		 <p data-bbox="1528 1206 1818 1234"><b>The Champion Skater.</b></p>

Source: Public Domain.

**Exhibit 3 – Ben, Nikola & Walter’s 20s**

Age	Ben Year & Activity	Nikola Year & Activity	Walter Year & Activity
20 - 23	<p><b>1726</b>, age 20; In July, returned to Philadelphia and worked for Thomas Denham, a merchant who had loaned him the money to return home. Franklin worked as a bookkeeper and shopkeeper in a store which sold imported clothes and hardware.</p> <p><b>1727</b>, age 21; Suffered first pleurisy (pain while breathing) attack; Left job with Denham; Was rehired by printer Keimer; Franklin then had an affair with a woman that results in the birth of his illegitimate son William; Helped to establish the Junto, a society of young men who met together on Friday evenings for "self-improvement, study, mutual aid, and conviviality."</p> <p><b>1728</b>, age 22; In June, established a Philadelphia printing partnership with Hugh Meredith; Rented a building that serves as home and printshop. Composes "Articles of Belief and Acts of Religion"</p> <p><b>1729</b>, age 23; Wrote a pamphlet entitled "The Nature and Necessity of a Paper Currency;" Purchased <i>The Pennsylvania Gazette</i> from Samuel Keimer.</p>	<p><b>1878</b>, age 22; Tesla was still affected by a teacher ridicule incident and he developed obsession with studying, gambling and alternating current. He dropped out the Polytechnic his senior year.</p>	<p><b>1894</b>, age 23; Russell married Helen Andrews. The couple traveled to Paris for their wedding trip and a second term for him at the Académie Julian. After their wedding trip, Russell and his wife settled in New York City in 1894 and had two daughters, Helen and Louise. Most of the time, Russell lived alone in his studio in Carnegie Hall in New York, while his family lived in Washington, Connecticut, in a house he had designed and built for them.</p>

**Exhibit 3 – Ben, Nikola & Walter’s 20s (Continued)**

Age	Ben Year & Activity	Nikola Year & Activity	Walter Year & Activity
24 – 26	<p><b>1730</b>, age 24; Elected the official printer for PA; Took a common law wife Deborah Read Rogers; Bought out printing partner Hugh Meredith; Fire destroyed the southern part of Philadelphia and Franklin started agitating for fire protection programs. Around the same time, Ben was initiated into the local Masonic lodge.</p> <p><b>1731</b>, age 25; Joined the St. Johns Freemasons Lodge; Drew up the Library Company's articles of association on July 1st. The Library Company was the first lending library in the country, though it was still private.</p> <p>Sponsored his journeyman Thomas Whitmarsh as his printing partner in SC, Franklin bought the printing press and types in return for 1/3 of the profits over a six-year term — in effect becoming a printing franchiser.</p> <p><b>1732</b>, age 26; Birth of his son Francis Folger; In May, Franklin started printing America's first German-language newspaper, <i>Philadelphische Zeitung</i>, which soon failed.</p> <p>Published the first edition of "Poor Richard's Almanack" in December under the pseudonym Richard Saunders. He became wealthy doing so. Adages from this almanac, such as "A penny saved is two pence dear" (often misquoted as "A penny saved is a penny earned") and "Fish and visitors stink in three days," remain common quotations in the modern world.</p>	<p><b>1880</b>, age 24; Tesla's uncle collected money to help him relocate to Prague to finish his studies. Tesla was admitted to the mental hospital in Budapest, Hungry with severe OCD, and flashes of light and mental images that he was having difficulty controlling. His sensitivity was so strong that he could hear a clock ticking three rooms away. During a visit from a school friend, Tesla got a revelation, which he drew in the dirt pathway showing there is no need for the commutator and that the excitation can be provided by a rotating magnetic field that will create a true square wave frequency to deliver energy. This break-through proved he was right all along, and his Professor had been wrong.</p> <p><b>1881</b>, age 25; Tesla began working for American Telephone Company in Budapest as chief electrician, He then became chief electrical engineer to the Yugoslav government and helped establish the country's first telephone system. He developed a telephone repeater (amplifier), one of the first wireless telephones.</p> <p><b>1882</b>, age 26; Tesla moved to Paris to work for Continental Edison Company. He designed electric equipment improvements, resolving problems with their Direct Current dynamos. Tesla also conceived the induction motor and began developing devices using rotating magnetic fields.</p>	<p><b>1895</b>, age 24; Russell assumed directorship of The Twilight Club (a dinner club in New York City that operated from 1883 until 1904, founded "to cultivate good fellowship and enjoy rational recreation.")</p> <p><b>1897-1898</b>, age 26 – 27; Russell was Art Editor of Colliers Weekly, became a correspondent for Collier's and Century, during the Spanish War.</p>

Franklin Pictures



Tesla Pictures



Russell Pictures



Tesla in 1885.



Walter in 1905.


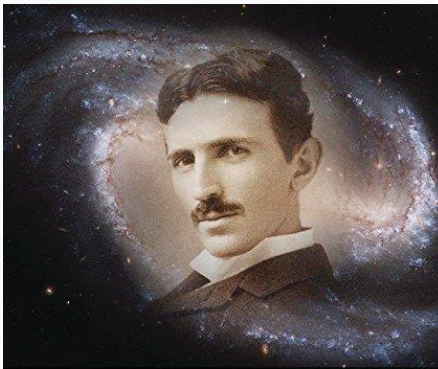

Source: Public Domain.

**Exhibit 3 – Ben, Nikola & Walter’s 20s (Continued)**

Age	Ben Year & Activity	Nikola Year & Activity	Walter Year & Activity
27 - 29	<p><b>1734</b>, age 28; Ben was elected Grand Master of the Grand Masonic Lodge of Masons of PA; The same year, he edited and published the first Masonic book in the Americas, a reprint of James Anderson’s <i>Constitutions of the Free-Masons</i>.</p> <p>Bought property on Philadelphia's Market St. Eventually he put together several lots of land on Market Street. These housed his print shop and retail space. Bribe post riders to carry his <i>PA Gazette</i>.</p> <p><b>1735</b>, age 29; Brother James Franklin died; Benjamin sent his widow 500 copies of Poor Richard for free so she could make money by selling them.</p>	<p><b>1884</b>, age 28. Tesla arrived in America to work directly for Thomas Edison, show him his design of Alternating Current, and deep understanding of the faulty Direct Current system installed in NYC. Direct Current was very costly, requiring a generator to be placed every mile for mass lighting and for home installation a generator (often catching fire) was needed for each house. Tesla convinced Edison of his skills by solving direct current issues and saying he could improve the existing direct current system by 30% within a year. Edison said, “If you can do that, I’ll give you a bonus of \$50,000”. They entered a gentleman’s agreement.</p> <p><b>1885</b>, age 29. Tesla exceeded Edison’s expectations. There were far less fire-break outs and at least 40% efficiency improvements in the entire system, including the dynamos. When Tesla went to collect the \$50K, Edison dismissed Tesla stating he never entered into a firm agreement and that Tesla “does not understand American humor.” Tesla was furious and announced his resignation. Tesla declined a raise offer indicating he would never work for a man without any ethical integrity. Tesla then left Edison Electric Company.</p> <p>Tesla then met with Lemuel Serrel, an attorney, to help in the submission of patents. Serrel introduced him to various businessmen who agreed to help finance a new light production company under Tesla’s name. Tesla worked to acquire the patents for the company including developing an enhanced DC motor.</p>	<p><b>1900</b>, age 29; Completed an allegorical painting entitled "The Might of Ages" – first exhibited in the Turin International Art Exposition, winning honorable mention from Italy, then exhibited throughout Europe, winning him many honors from France, Belgium and Spain, including membership to the Spanish Academic of Arts and Letters, Toledo. The painting represented the United States at the Turin international exhibition and won several awards.<sup>[7]</sup></p> <p><b>1900-1914</b>, age 29 – 43; Russell mainly painted portraits of children.</p>

Exhibit 3 illustrates that during their 20s:

- Ben worked as a book and shop keeper; Established the self-improvement society Junta; Established a printing partnership; Joined the Masonic lodge; Established the first U.S. lending library; and Published Poor Richard's Almanack;
- Nikola dropped out of Polytechnic his Sr. year; Was diagnosed with severe OCD, including flashes of light and mental images; Served as Chief Electrical Engineer to the Yugoslav government and helped establish the country's first telephone system; Worked for Thomas Edison solving direct electricity current issues, and learning that Edison was a swindler for renegeing on a promised \$50,000 bonus.
- Walter was a magazine art editor; Covered the Spanish-American War as an artist; Became Director of the social/business networking Twilight Club; Completed the acclaimed *The Might of Ages* painting.

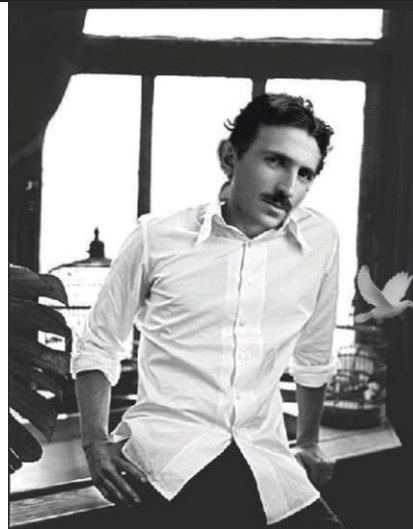
Franklin Pictures	Tesla Pictures	Russell Pictures
	 <p data-bbox="695 1187 1052 1325">"If you wish to understand the Universe, think of energy, frequency and vibration." ~ Nikola Tesla</p>	 <p data-bbox="1367 1341 1682 1365">The Might of Ages, 1900.</p>

Source: Public Domain.

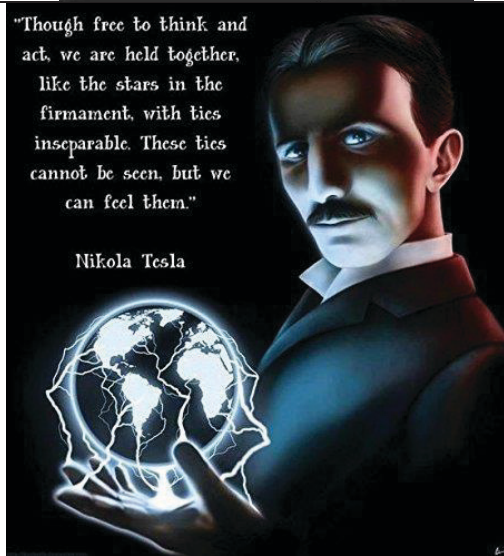
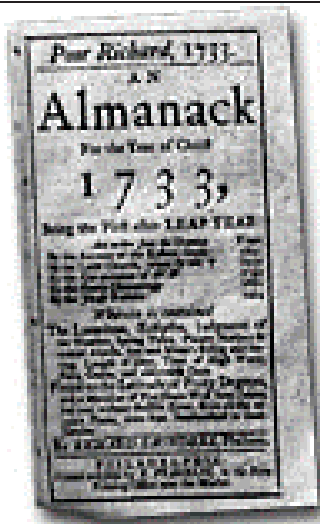
Franklin Pictures



Tesla Pictures



Russell Pictures



Source: Public Domain.



**Exhibit 4 – Ben, Nikola & Walter’s 30s**

Age	Ben Year & Activity	Nikola Year & Activity	Walter Year & Activity
30	<p>1736, age 30; Named Clerk of the PA Assembly; Printed currency for NJ; Son Francis (Franky) Folger died at age 4 of smallpox; Organized the Union Fire Company (Franklin regularly attended meetings of the Library Company, the Masonic Lodge, the Junto, and the Fire Company); Printed "A Treaty of Friendship held with the Chiefs of the Six Nations at Philadelphia."</p>	<p>1886, age 30; Tesla intended to set-up Tesla Electric Light and Manufacturing (TELM) in Rahway, NJ. He planned to sell and license his patents and new innovations. Also, the U.S. Patent Department granted him patents for Electric Arch Lamp, Commutator for Dynamo-Electric Machines, and Regulator for Dynamo-Electric Machines. Two investors then offered Tesla the opportunity to develop and improve their arch lighting system and in return finance TELM. This was not the opportunity Tesla had hoped for, since he was interested in his alternating current invention.</p> <p>TELM then invented a high efficiency arc lamp and the company earned money but most of the capital gained went to the investors. Ultimately, the investors disagreed with Tesla on his plan to develop alternating current. He was forced out of the company and left with worthless stock.</p> <p>Tesla could then only find work digging ditches for \$2.00 per day to lay wire for the Edison Electric Company.</p>	<p>1901, age 30; Russell mainly painted portraits of children. He also published the children’s book <i>The Sea Children</i>.</p>
31	<p>1737, age 31; Appointed Postmaster of Philadelphia.</p>	<p>1887, age 31; Tesla was contacted by Mr. A.K. Brown of the Western Union Company, who agreed to invest in Tesla’s idea for an AC motor. He could think all of his ideas in three-dimensional form in great detail Tesla was granted 7 U.S. Patents for his alternating current system. These comprised a complete system of generators, transformers, transmission lines, motors and lighting. The motors were exactly as they had appeared in his vision. But the struggle to introduce it commercially was only just beginning. This directly competed with Edison’s DC system.</p>	<p>1902, age 31; Russell mainly painted portraits of children.</p>

**Exhibit 4 – Ben, Nikola & Walter’s 30s - Continued**

Age	Ben Year & Activity	Nikola Year & Activity	Walter Year & Activity
32 - 33	<p>1739, age 33; Franklin's house robbed; Led an environmental protest against polluting "Slaughter-Houses, Tan-Yards, Skinner Lime-Pits, &amp;c. erected on the public Dock, and Streets, adjacent."</p>	<p>1888, age 32; Tesla spoke at Columbia University before the American Institute of Electrical Engineers. He demonstrated his prototype of his two-phase induction motor by cycling or alternating the current a reduction of resistance is realized creating a method by which the long-distance transmission of electricity is now possible. He also met George Westinghouse, who invented the railroad airbrakes. He was interested in teaming with Tesla and offered him cash and shares in the Westinghouse Corporation for the purchase of his seven alternating current patents. Tesla also received a royalty contract of \$2.50 per horsepower of electrical capacity sold.</p> <p>1888, age 32; Tesla was working at the Westinghouse plant in Pittsburg. He couldn't be bothered with formal blueprints, as he has too much detail already worked out in his head and he was driven to run each experiment three times due to his OCD.</p> <p>1889, age 33; The first long distance transmission of DC electricity in the United States was switched on at Willamette Falls Station in Oregon City, Oregon. This was through the use of AC voltages that were produced by his famous "Tesla coil." He tried in many ways to come up with a wireless lighting system. He also performed various public demonstrations, where he would light up Geissler tubes to impress his audience.</p>	<p>1903, age 32; Commissioned by The Ladies' Home Journal to find and paint 12 most beautiful children in the United States of America. He also published the children's book <i>The Bending of the Twig</i>, and joined the Authors Club.</p> <p>1904, age 33; Russell continued to paint portraits of children. He also published the children's book <i>The Age of Innocence</i>.</p>

**Exhibit 4 – Ben, Nikola & Walter’s 30s - Continued**

Age	Ben Year & Activity	Nikola Year & Activity	Walter Year & Activity
34 - 35	<p><b>1740</b>, age 34; Became the official printer for New Jersey.</p> <p><b>1741</b>, age 35; Advertised the "Franklin Stove;" Published first edition of "The General Magazine and Historical Chronicle," one of America's earliest magazines. It failed after six issues.</p>	<p><b>1890</b>, age 34; The breakthrough with Tesla's AC patents caused an industrial war to erupt. Edison launched a propaganda war against alternating current.</p> <p><b>1891</b>, age 35; Tesla became a United States citizen and also received a patent for his famous Tesla Coil.</p>	<p><b>1905</b>: age 34; Walter became a horse breeder; Continued to paint portraits of children.</p>
36 - 37	<p><b>1742</b>, age 36; Franklin organized and publicized a project to sponsor plant collecting trips by renowned Philadelphia botanist John Bartram.</p> <p><b>1743</b>, age 37; Attended Archibald Spencer's Boston lectures on natural philosophy (including electricity); Came out with "A Proposal for Promoting Useful Knowledge" (the founding document of the prototype of the American Philosophical Society); Daughter Sally born.</p>	<p><b>1892</b>, age 36; Tesla informed his submission to illuminate the Chicago World's Fair has been approved and accepted. Tesla also began having visions in his sleep and awaking suddenly, shaking as he holds his head from sharp pains of the flashing lights. He also created the X-ray.</p> <p><b>1893</b>, age 36; May 1, Chicago World's Fair, President Grover Cleveland flipped the switch and hundreds of thousands of incandescent lamps burst into light. Tesla displayed his inventions of neon florescent lights he spelled out into tubes with the names of his favorite poets, scientists and inventors.</p> <p><b>1893</b>, age 37; The Niagara Falls committee announced Westinghouse and Dr. Tesla won the bid to harness and distribute electricity at Niagara Falls. In addition, Tesla filed and was granted seventeen wireless communication patents, also patents for System of Electrical Transmission of Power, Electric Generator, Steam Engine, Electrical Transmission of Power, Coil for Electro-Magnetics, Reciprocating Engine.</p>	<p><b>1908</b>: age 37; As an architect, Russell designed the Alwyn Court building; Continued to paint portraits of children. That year, a reporter wrote: "Mr. Russell came here from Boston and at once became a great artistic success."</p>

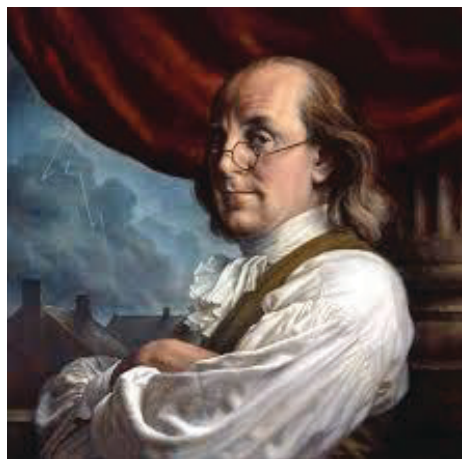
**Exhibit 4 – Ben, Nikola & Walter’s 30s - Continued**

Age	Ben Year & Activity	Nikola Year & Activity	Walter Year & Activity
38 - 39	1745, age 39; Death of Josiah Franklin, Benjamin's father.	<p>1894, age 38; Tesla filed patents for Electrical Conductor, Means for Generating Electric Currents, Incandescent Electric Light, Electric Railway System, Electrical Meter, Electromagnetic Motor.</p> <p>1895, age 38; A building fire consumed Tesla's lab, destroying his work.</p> <p>During the 1890s Mark Twain struck up a friendship with Tesla. Twain often visited him in his lab, where in 1894 Tesla photographed the great American writer in one of the first pictures ever lit by phosphorescent light.</p>	1909: age 38; Walter Russell, architect, designed the 44 West 77th Gothic House building. Also painted portraits of children.

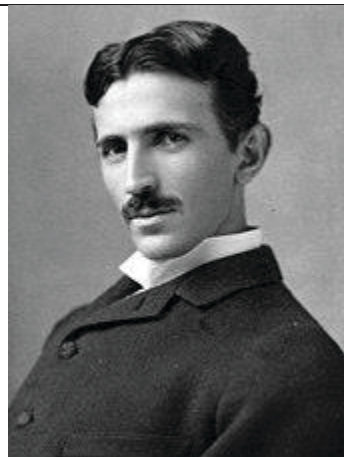
Exhibit 4 illustrates that during their 30s:

- Ben was named Clerk of the PA Assembly; Continued his printing activities; Became involved with fire fighting efforts; Was appointed Postmaster of Philadelphia; Led an environmental protest against polluting facilities; Invented the Franklin Stove; Wrote the founding documentation of the American Philosophical Society.
- Nikola attempted to establish the Tesla Electric Light and Manufacturing (failed due to lack of funds); Secured many patents for electric machines, alternating current system, and wireless communication; Worked with Westinghouse creating systems without the use of blueprints; Advanced wireless lighting systems; Created the X ray; Won the contract to illuminate the World’s Fair; Won the bid to harness and distribute electricity at Niagara Falls.
- Walter painted portraits of children; Published three children’s books; Completed the 12 Most Beautiful Children in the U.S. for the Ladies’ Home Journal; Became a horse breeder; Designed buildings as an architect.

Franklin Pictures

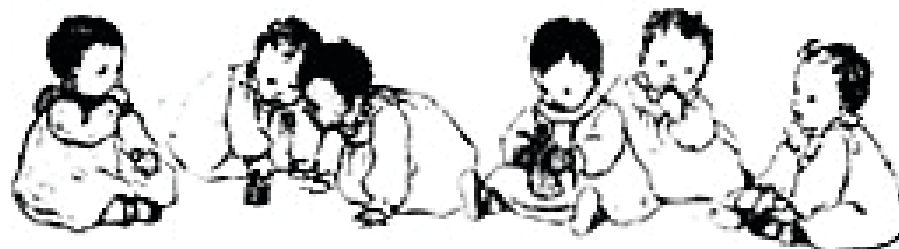


Tesla Pictures



Tesla, age 34, circa 1890. Photo by Napoleon Sarony.

Russell Pictures



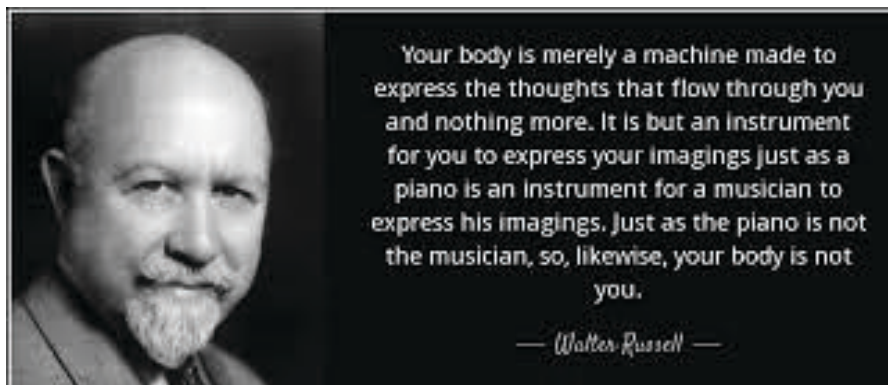
A COMPLIMENTARY OIL  
PORTRAIT OF YOUR CHILD



U.S. \$100 bill.



Tesla demonstrating wireless lighting during an 1891 lecture at Columbia College holding two long Geissler tubes (neon tubes).



Your body is merely a machine made to express the thoughts that flow through you and nothing more. It is but an instrument for you to express your imagings just as a piano is an instrument for a musician to express his imagings. Just as the piano is not the musician, so, likewise, your body is not you.

— Walter Russell —

Source: Public Domain.

**Franklin Pictures**

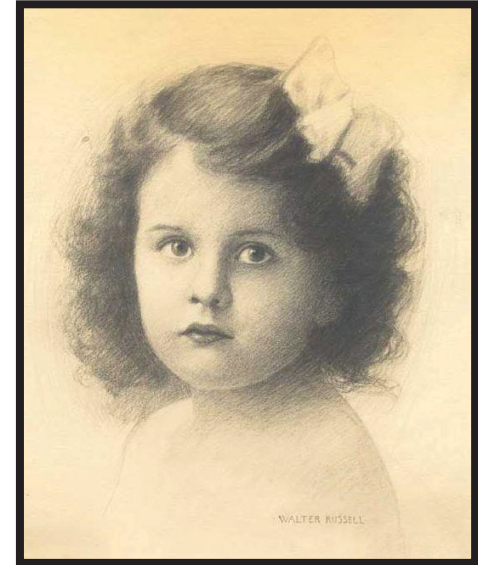


**Tesla Pictures**



**Tesla in front of a spiral coil used in his wireless power experiments at his East Houston St. lab.**

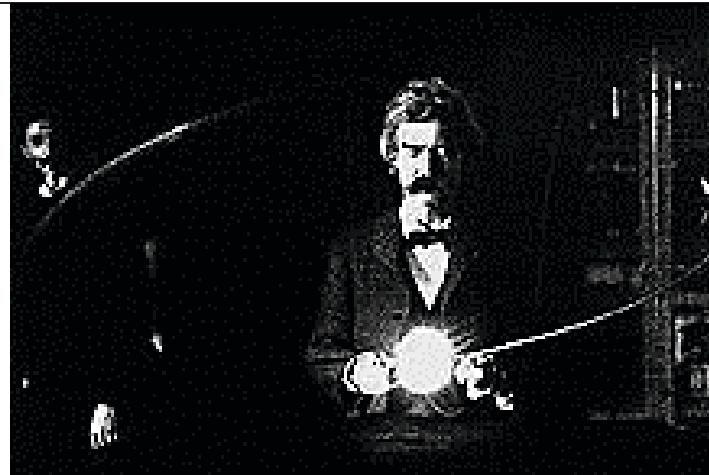
**Russell Pictures**



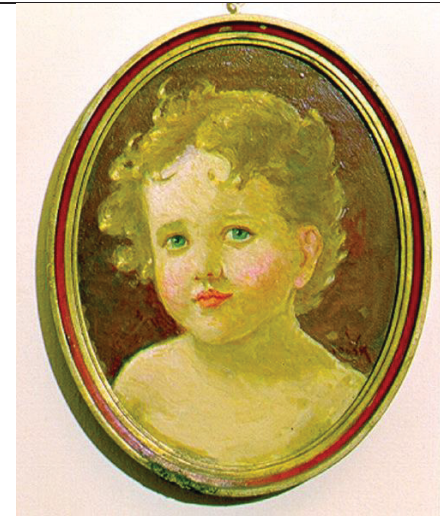
**Child Portrait.**



**Source: Public Domain.**



**Mark Twain in Tesla's S. 5<sup>th</sup> Ave. lab, 1894.**



**Exhibit 5 – Ben, Nikola & Walter’s 40s**

Age	Ben Year & Activity	Nikola Year & Activity	Walter Year & Activity
40 - 41	<p><b>1746</b>, age 40; Began extensive electrical experiments. Was the first to label electrical charges as positive and negative and the first to discover the principle of conservation of charge.</p> <p><b>1747</b>, age 41; Franklin wrote "The Plain Truth," a pamphlet arguing for better military preparedness in PA. Pamphlet included the first political cartoon published in America.</p>	<p><b>1896</b>, age 40; November 16 was the day Niagara Falls was launched, with AC generators installed, creatinh the first modern power station.</p> <p><b>1897</b>, age 41; One year after the launch of the Niagara Falls Power Station, electricity continued to expand, as power lines were fast growing across the country.</p> <p>Westinghouse was on the verge of a bankruptcy and he couldn't pay Tesla the \$2.50 per horsepower on the royalty contract. J. P. Morgan was manipulating the stock market to purchase the alternating current patents. Tesla tore up the contract. Also, Tesla was working on his wireless communication patents.</p>	<p><b>1911</b>, age 40; Walter continued to paint portraits of children.</p>
42	<p><b>1748</b>, age 42; Ben became a soldier in the PA militia after turning down a commission as a Colonel citing military inexperience.</p>	<p><b>1898</b>, age 42; Tesla experimented with his electromechanical steam driven oscillator and created an earthquake like experience covering a five-block radius. Tesla met with a NY Times reporter to discuss his wireless communications. The reporter and Tesla debated over his invention causing warfare, where Tesla felt it to be a deterrent.</p> <p><b>1899</b>, Age 42; Tesla was informed that land has been purchased in Colorado where the altitude air is thinner so he can build his "Tesla Coil" allowing electricity to full capacity. March 27, Guglielmo Marconi sent a wireless signal across the English Channel, using the seventeen wireless communication patents owned by Tesla. Tesla was outraged!</p>	<p><b>1913</b>, age 42; Walter continued to paint portraits of children.</p>

**Exhibit 5 – Ben, Nikola & Walter’s 40s - Continued**

Age	Ben Year & Activity	Nikola Year & Activity	Walter Year & Activity
43	<p>1749, age 43; Franklin presented his vision for education in a pamphlet titled "Public Academy of Philadelphia." His initiatives would lead to the founding of the Academy and College of Philadelphia (later the University of Pennsylvania) which opened in 1751. Ben was the first president.</p>	<p>1899, December, age 43; The biggest experiment ever, the Tesla Coil. The lab roof was retracted. The 2ndary coil sparked and cracked. A huge arc of electricity snaked up and down the center coil, oscillating faster and faster as the current builds. The noise was as loud as a jet engine. Electricity explodes, discharging hundreds of millions of volts up the antenna mast. A 2nd thundering crack of energy created a shockwave so powerful that the building pulls at its grounding cables that snap and the building shakes from its foundation. Highly charged liquid plasma created a blue aura encompassing the laboratory that could be seen in Silver Springs, CO (22 miles away). A bolt of lightning struck out into the night sky one-hundred and thirty feet in the air. The entire town was blacked-out, and electricity was fed back to the El Paso Electric Plant, shutting down all of its generators.</p> <p>1900, January, Age 43; Tesla had over-extended himself with his facilities and experiments in CO, spending \$100,000. February, Tesla wrote in his notebook: "When my global wireless system is perfected, man shall be able to communicate instantly irrespective of distance, weather or location. People will view images of their families and other information broadcast and received from thousands of points on earth. We shall see and hear one another as perfectly as though we were face to face."</p>	<p>1914, age 43; Russell painted portraits of notables, wrote, and built buildings, some of which still exist. Together with other sculptors, architects, and painters, he conceived the principle of co-operative ownership for flats in New York.</p>



**Exhibit 5 – Ben, Nikola & Walter’s 40s - Continued**

Age	Ben Year & Activity	Nikola Year & Activity	Walter Year & Activity
44 - 46	<p><b>1751</b>, age 45; Ben’s letters on electricity published in London. In a pamphlet on demographic growth and its implications for the colonies, he called the Pennsylvania Germans "Palatine Boors" who could never acquire the "Complexion" of the English settlers and referred to "Blacks and Tawneys" as weakening the social structure of the colonies.</p> <p><b>1752</b>, age 46; Ben conducted his famous experiment proving lightning is electricity by flying a kite in a storm (this eventually led to his invention of the lightning rod); Received Copley Medal of the Royal Society of London for research in electricity; Became Deputy Postmaster General of North America; Wrote a plan for a union of the colonies for security and defense; Helped found the Philadelphia Contributionship for Insuring of Houses from Loss Against Fire.</p>	<p><b>1900</b>, age 44; Tesla returned to New York. George Sheriff sent word, that J.P. Morgan had expressed interest in investing in his wireless communication, particularly radio broadcasting. He had secured land in Wardencllyffe, Long Island Shore. John Jacob Astor was Tesla’s wealthiest and most generous investor. He invested \$100,000 in 1899 for Tesla to, as he understood it, further develop and produce a new lighting system. Tesla instead, used the money to fund his Colorado Springs experiments. Mr. Astor was understandably unhappy with Tesla’s deception and avoided him for several years.</p>	<p><b>1916</b>, age 45; Walter was the developer of the completed Hotel des Artistes on West 67th Street in NYC. It’s considered his masterpiece and crowning achievement as a builder. He created \$30 million worth of top-quality cooperative apartments. He was credited with developing "cooperative ownership into an economically sound and workable principle."</p>
47 - 48	<p><b>1753</b>, Age 47; Received honorary degrees from Harvard and Yale; Appointed joint Deputy Postmaster General of North America. This enabled him to set up the first national communications network.</p> <p><b>1754</b>, Age 48; Proposed plan of colonial union at Albany Congress.</p>	<p><b>1903</b>, July, Age 47; J.P. Morgan had not given Tesla the full amount of the agreed investment money for Wardencllyffe, but instead had sent him increments, stressing Tesla and causing him to be delinquent in paying his workers, even though he had raised his own investment money. Tesla had still managed to almost complete the tower.</p> <p><b>1904</b>, September 12, Age 48; Tesla informed some of his wireless communication patents have been revoked due to prior art by Guglielmo Marconi. Tesla was shocked and angry; J. P. Morgan was behind this.</p>	<p><b>1918</b>, Walter turned the age of 47.</p> <p><b>1919</b>, Walter turned the age of 48.</p>

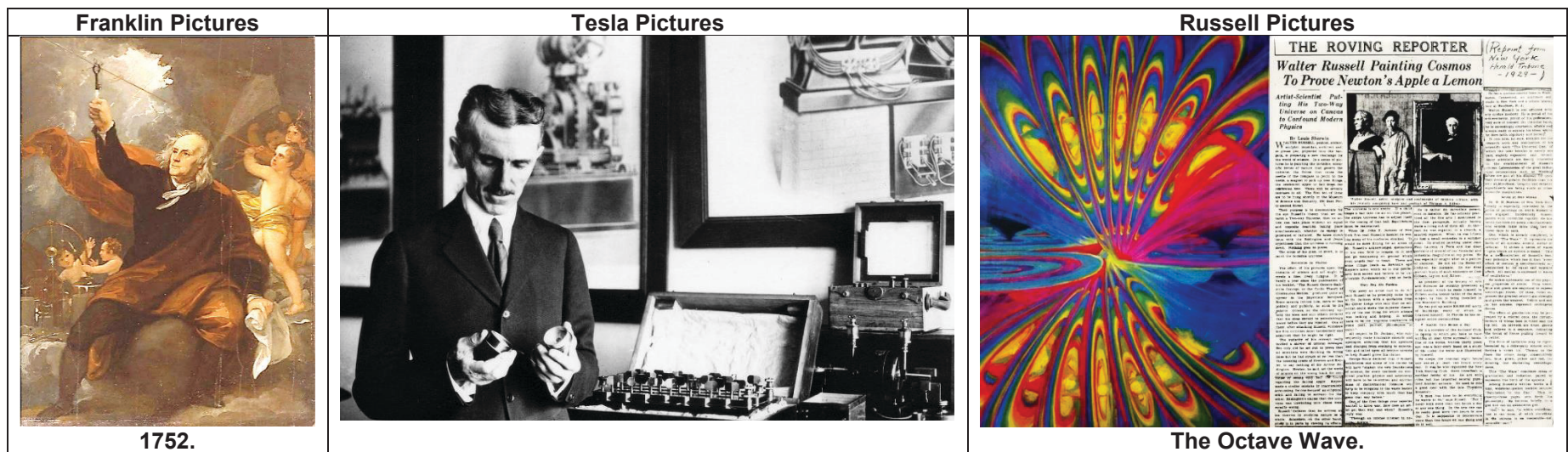
**Exhibit 5 – Ben, Nikola & Walter’s 40s - Continued**

Age	Ben Year & Activity	Nikola Year & Activity	Walter Year & Activity
49	1755, Ben turned the age of 49.	1905, Age 49; for the first time, Tesla was worried about money and he couldn't pay the men who have worked so hard to build his ultimate dream tower. He believed that if Morgan would have paid the full agreed \$150,000 (he barely paid half) and the investment money from Colonel Astor and investment partners, Wardenclyffe would have changed the lives for all mankind and brought full wireless communication to the world, using all of his wireless communication patents, freeing him from this one-sided legal battle, with the power of Morgan controlling all of the judges in New York. Tesla naïvely didn't have a full understanding of how powerful Morgan was, and his legal team was not gaining any rulings in their favor. This was truly the downfall of his career.	1921, May, age 49; Walter experienced a 39 day and night period of illumination, writing down some 40,000 words given to him from the Light of Cosmic Consciousness – later published as "The Message of the Divine Iliad." His family even consulted specialists in order to decide if he had to be admitted into a psychiatric clinic. Fortunately these doctors were very impressed by his recordings and sensed, that something great was happening. He also painted The Octave Wave.

Exhibit 5 illustrates that during their 40s:

- Franklin completed extensive electrical experiments; Wrote *The Plain Truth* arguing for better military preparation (including the first U.S. political cartoon); Became a soldier in the PA militia; Presented his vision for education in a pamphlet which ultimately led to the founding of the Academy and College of Philadelphia (later known as the University of PA); Became the first President of the University of PA; Published letters on electricity in London; Published a pamphlet of demographic growth in the Colonies; Conducted his famous kite experiment proving lightning is electricity; Became Deputy Post Master General of North America (establishing the first national communications network); Helped form the Philadelphia Contributionship for Insuring of Housing from Loss Against Fire; Proposed a plan of colonial union.

- Tesla helped create and startup the first modern power plant station at Niagara Falls; Advanced his wireless communication patents; Experimented with his electromechanical steam driven oscillator; Expressed that his wireless invention(s) would serve as a war deterrent; Tested the Tesla Coil in Colorado and envisioned the day when people could communicate instantly regardless of distance, weather, or location; Continued his wireless research, building Wardenclyffe on Long Island, NY (lack of funding slowed progress); Encountered political/economic hurdles from competitor Marconi and would-be financial backer J. P. Morgan (along with corrupt legal system).
- Russell continued to paint children's portraits, expanding to notable figures as well; Wrote books; Built buildings (including Hotel des Artistes); Helped to conceive the principle of co-operative ownership for flats in NYC; Experienced a 39 day and night period of illumination, writing down 40,000 words given to him from the Light of Cosmic Consciousness; Painted the Octave Wave.



Source: Public Domain.

Franklin Pictures

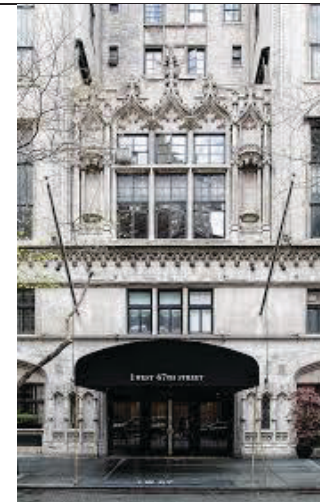


Ben's political cartoon urging the colonies to join together during the French and Indian War.

Tesla Pictures



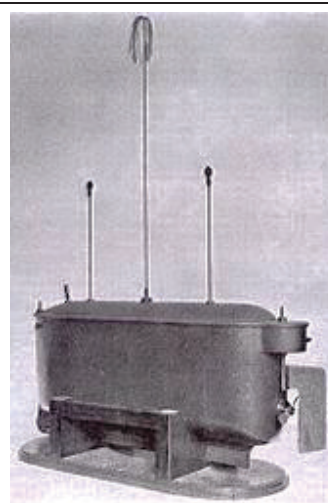
Russell Pictures



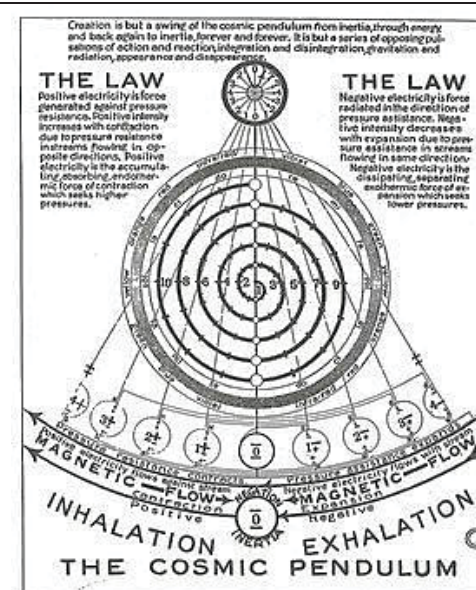
Hotel des Artistes, NYC.



First issue of Benjamin Franklin on U.S. postage stamp, issue of 1847.



1898, Tesla's radio-controlled boat which he hoped to sell to navies around the world as a guided torpedo.



Source: Public Domain.

**Exhibit 6 – Ben, Nikola & Walter’s 50s**

<b>Age</b>	<b>Ben Year &amp; Activity</b>	<b>Nikola Year &amp; Activity</b>	<b>Walter Year &amp; Activity</b>
<p><b>50 - 53</b></p>	<p><b>1756</b>, Franklin turned the age of 50.</p> <p><b>1757</b>, age 51; Ben began a 5-year assignment in England as agent for the PA Assembly, MA, GA, and NJ.</p> <p><b>1759</b>, Age 53; Ben received honorary degree of Doctor of Laws from the University of St. Andrews, Scotland.</p>	<p><b>1906</b>, Age 50; Tesla filed a lawsuit complaint against Marconi America “RCA”.</p> <p><b>1908</b>, Age 52; John Jacob Astor and Tesla reconciled from earlier investment dispute and worked together on aircraft and propulsion systems.</p>	<p><b>1921</b>: Russell turned the age of 50.</p> <p><b>1922</b>: Age 51; Dr. Henry Norris Russell “checked the first astronomical charts” by Walter Russell.</p> <p>Around same time Walter gained access to a lab at New York University – in order to demonstrate his hydrogen discoveries. “I set up a demonstration laboratory . . .to prove that the elements are not different substances but are differently conditioned pressures of motion – and that the structure of the atom is based upon the gyroscopic principle.”</p> <p>Between <b>1921 and 1943</b>, Nikola Tesla and Walter met and discussed Russell’s cosmology. Russell evidently exerted considerable energy for years urging the research labs of Union Carbide, Westinghouse, General Electric and others to verify his atomic findings.</p> <p><b>1921-1946</b>: Russell and “other notable figures of his time” established and ran the Society of Arts and Sciences (post-Twilight Club). Their efforts culminated in service organizations like The Rotary Club, The Lions Club, The Boy Scouts, and many others. The Society stood up for the right of education, for minimum wages, “truth” in advertising, and much more.</p>

**Exhibit 6 – Ben, Nikola & Walter’s 50s - Continued**

Age	Ben Year & Activity	Nikola Year & Activity	Walter Year & Activity
54 - 56	<p>1762, age 56; Mapped postal routes in the colonies. Invented an improved glass armonica (type of musical instrument that uses a series of glass bowls or goblets graduated in size to produce musical tones by means of friction).</p>	<p>1910, age 54; Tesla gained initial success with “Turbines.” Samuel Clemens died of a heart attack in Redding, Connecticut; one day after Haley’s Comet’s closest approach to earth.</p> <p>1911, age 55; Tesla talked about his new Monarch of Machines, Gas Turbines and Flying machines.</p> <p>1912, april 14, Age 55; Tesla was embroiled in other problems at the time, but when Marconi was actually awarded the Nobel Prize in 1911, Tesla was furious. Unfortunately, friend and investor to Tesla, John Jacob Astor then drowned in the Titanic disaster.</p>	<p>1926, age 55; Russell published his two Periodic Tables of Elements. Russell published “The Universal One.” he included <i>ethlogen</i> and <i>bebegen</i> in the first octave with Hydrogen which were later named deuterium and tritium. Similarly, what he called <i>uridium</i> and <i>urium</i> became known as neptunium and plutonium, respectively.</p> <p>1927-1939, age 56 – 78; Walter started a motivational Lecture Series to IBM executives and employees (for a 12 year period) called Through this engagement, Walter and IBM Chairman T. J. Watson developed a new concept of utilitarian business ethics.</p> <p>1927, age 56; Walter was elected President of the Society of Arts and Sciences. Many articles in the NY Times followed. The same year, Westinghouse Lamp Company provided Russell with full use of its facilities for gas transmutations – including their spectrum analyses. Russell also took to sculpting, his first work being a bust of Thomas Edison. Other sculptures included: Mark Twain, General MacArthur, John Philip Sousa, Ossip Gabrilowitsch, Charles Goodyear, George Gershwin and others.</p>

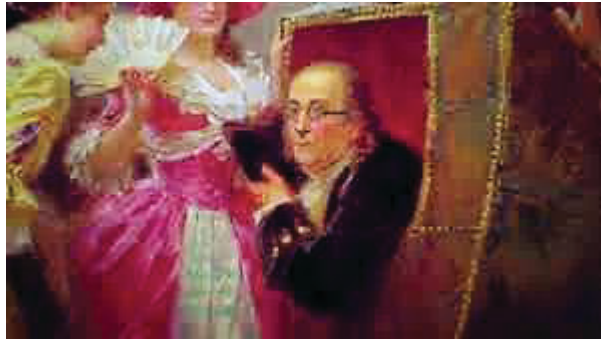
**Exhibit 6 – Ben, Nikola & Walter’s 50s – Continued**

<b>Age</b>	<b>Ben Year &amp; Activity</b>	<b>Nikola Year &amp; Activity</b>	<b>Walter Year &amp; Activity</b>
<b>57 - 59</b>	<b>1764 – 1765</b> , age 58 – 59; Codified and charted the Gulf Stream. It took many years for British sea captains to adopt Franklin's advice on navigating the current; once they did, they were able to trim two weeks from their sailing time to America.	<p><b>1913</b>, Age 57. Tesla received turbine (bladeless centripetal flow) patents, which he hoped could be applied toward geothermal power.</p> <p><b>1914</b>, March, Age 57; George Westinghouse died at the age of 67.</p> <p><b>1915</b>, Age 58; Tesla continued to work, filing a new patent of the principles regarding frequency, range, azimuth and power levels for the first radar units. November 6, Age 59; Tesla, and Edison never shared the Nobel Physics Prize The committee did not deny they were first choices. Speculation is Tesla refused to share an award with Edison. Also in 1915, Tesla sat for his self-portrait. This became the famous “Blue Portrait”. The portrait was unveiled on Tesla’s birthday, July 10, 1931.</p>	<b>1930</b> : Age 59; Russell published <i>The Russell Genero-Radiactive Concept</i> ; Published a revision of a portion of <i>The Universal One</i> ; On July 21, 1930, The New York Times published an article of Russell’s, where he challenges the Newtonian theory of gravitation.

Exhibit 6 illustrates that during their 50s:

- Ben completed a 5-year assignment in England as an agent for MA, GA, and NJ; Mapped colonial postage routes; Invented a glass armonica; Codified and charted the Gulf Stream.
- Nikola filed a lawsuit complaint against Marconi America (RCA); Worked on aircraft and propulsion systems; Advanced work on gas turbines and flying machines; Received turbine patents for use with geothermal power; Filed patents for the first radar units.
- Walter gained access to NYU labs to demonstrate his hydrogen discoveries; Helped to establish the Society of Arts and Sciences (SAS – post-Twilight Club), leading to formation of the Rotary Club, Lions Club, Boy Scouts of America, and other organizations; Published two Periodic Tables of Elements; Started a 12-year engagement as a motivational speaker with IBM; was Elected President of the SAS; Took up sculpting, completing busts of Thomas Edison, Mark Twain, and others; Published articles and the Russell Genero – Radiactive Concept.

**Franklin Pictures**



**Tesla Pictures**

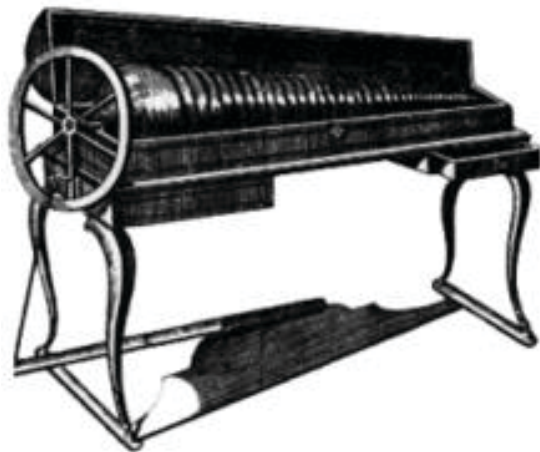


Second banquet meeting of the Institute of Radio Engineers, 23 April 1915. Tesla seen standing in the center.

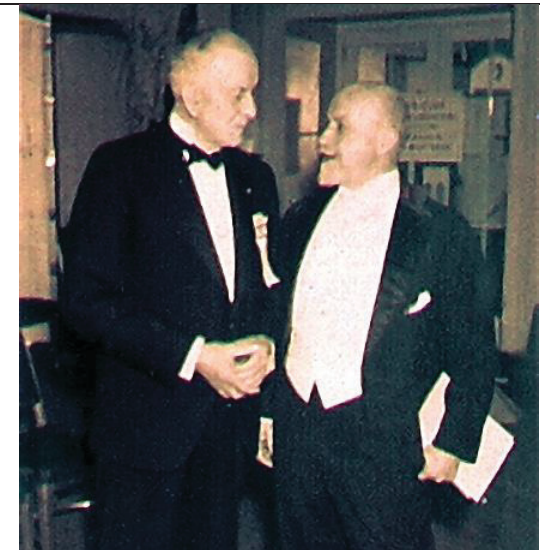
**Russell Pictures**



Walter's Thomas Edison.



Ben's glass armonica, 1762.



IBM's T. J. Watson w/Walter.

Source: Public Domain.



**Exhibit 7 – Ben, Nikola & Walter’s 60s**

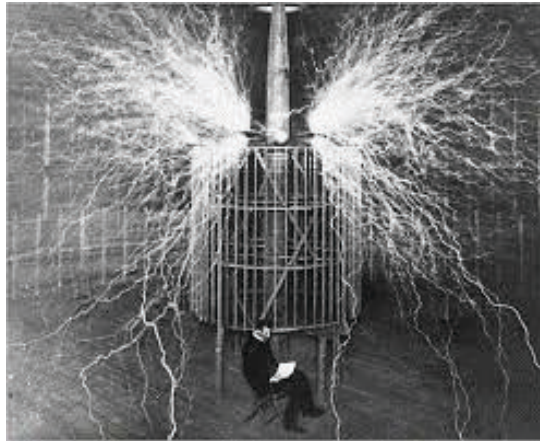
<b>Age</b>	<b>Ben Year &amp; Activity</b>	<b>Nikola Year &amp; Activity</b>	<b>Walter Year &amp; Activity</b>
<b>60 - 63</b>	<p><b>1766</b>, age 60; Examined in House of Commons in support of Stamp Act repeal.</p> <p><b>1767</b>, age 61; Around this time Ben was associated with the <i>Pennsylvania Chronicle</i>, a newspaper that was known for its revolutionary sentiments and criticisms of British policies.</p> <p><b>1768</b>, age 62; Ben was named Colonial Agent for Georgia to spearhead an effort in London to have the Parliament of Great Britain repeal the unpopular Stamp Act.</p> <p><b>1769</b>, age 63; Ben was elected Colonial Agent for New Jersey. He also organized and was the first secretary of the American Philosophical Society and was elected president in 1769.</p>	<p><b>1917</b>, July, Age 60; The U.S. Marines tore down the Wardenclyffe Tower. The government was afraid the tower could be used by spies to communicate with enemy submarines in our coastal waters.</p> <p><b>1917</b>, July, Age 61; Tesla moved to Chicago.</p> <p><b>1918</b>, Age 62; Upon returning from Chicago, Tesla moved into the Hotel St. Regis, one of New York’s most exclusive hotels.</p> <p><b>1919</b>, Age 63; “Electrical Experimenter” magazine began a series of articles entitled “My Inventions” by Tesla.</p>	<p><b>1931</b>: Age 60; Walter Russell lived at 450 East 50th Street, New York, N.Y.</p> <p><b>1934</b>: Age 63; Walter published <i>The Sculptor Searches for Mark Twain’s Immortality</i>. He also began sculpting the Mark Twain Memorial.</p>
<b>64 – 67</b>	<p><b>1770</b>, age 64; Ben was elected Colonial Agent for Massachusetts.</p> <p><b>1771</b>, age 65; Ben toured Ireland. He was invited to sit with the members of the Irish Parliament rather than in the gallery.</p> <p><b>1771 – 1772</b>, age 65 – 66; Franklin wrote his Autobiography.</p> <p><b>1772</b>, age 66; In a letter to Joseph Priestley, Franklin laid out the earliest known description of the Pro &amp; Con list, a common decision-making technique.</p>	<p><b>1920</b>, Age 64; Tesla found peace through all of his financial and legal struggles by feeding the pigeons, who have become his loyal friends.</p> <p><b>1921 to 1923</b>, Age 65 – 67; Tesla worked with the Budd Company and develops new types of automobile engines for them.</p>	<p><b>1936</b>, June, age 65; Russell lectured at The Astrologer’s Guild of America, published later as <i>The Electric Nature of the Universe</i> – a compact depiction of his Cosmology; Also published <i>The Self-Multiplication Principle</i>, an excerpt from a talk; Wrote a draft of an IBM presentation <i>United Industry for Universal Peace</i> for chairman Thomas J. Watson, Sr. – Published in 2003 in <i>THINK: The First Principle of Business Ethics</i>.</p>

**Franklin Pictures**

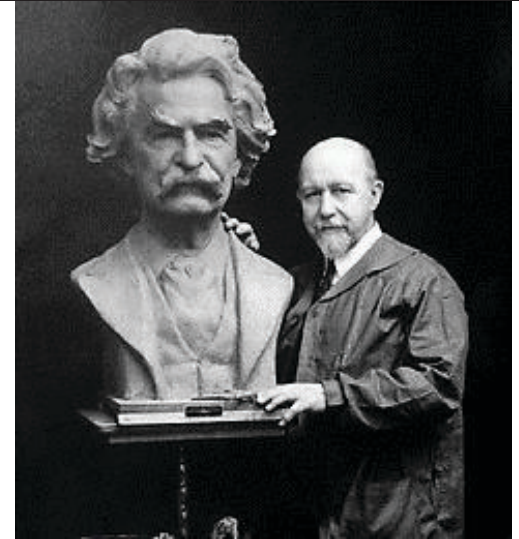


**Franklin in London in 1767.**

**Tesla Pictures**



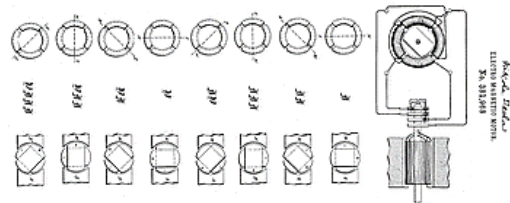
**Russell Pictures**



**Mark Twain bust.**



**Source: Public Domain.**



**Drawing from U.S. Patent 381,968, illustrating principle of Tesla's alternating current induction motor**



**Mark Twain Memorial.**

**Exhibit 7 – Ben, Nikola & Walter’s 60s - Continued**

Age	Ben Year & Activity	Nikola Year & Activity	Walter Year & Activity
68 - 69	<p><b>1774</b>, age 68; Ben was dressed down before London's Privy Council by Solicitor General Wedderburn for leaking letters in the "Hutchinson Affair;" Deborah Read, his wife of 44 years, died in Philadelphia.</p> <p><b>1775</b>, age 69; Ben was elected as a PA delegate to Second Continental Congress; serves as chairman of Pennsylvania Committee of Safety; Elected Postmaster General of the Colonies.</p>	<p><b>1924 to 1925</b>, Age 68 – 69; Tesla continued to work with the Budd Company and developed new types of automobile engines for them.</p> <p><b>1926</b>, June, Age 69; Tesla received a diploma of honorary doctorate from the Faculty of Engineering, University of Belgrade and honorary doctorate from the University of Zagreb.</p>	<p><b>1939</b>: Age 68; May 13<sup>th</sup>, Russell lectured on <i>Space and the Hydrogen Age</i> at the annual convention of The Eastern Electronic Association (Hotel Pennsylvania, New York – published by USP October 1989).</p> <p>As World War II approached, Walter moved into a top-floor studio at Carnegie Hall, where he lived alone (his estranged wife Helen lived in Connecticut). At the time, he was supervising the casting of the Four Freedoms. This was a low time that required a rejuvenation of his health and spirit. There were reports of his "egotism and self-aggrandizement" that bothered him.</p>

Exhibit 7 illustrates that during their 60s:

- Franklin advocated for Stamp Act repeal; was Associated with the PA Chronicle newspaper known for criticisms of British policies; Continued to represent colonial interests in England; Toured Ireland; Wrote his autobiography; Established the Pros – Cons list prototype; was Elected PA delegate to the 2<sup>nd</sup> Continental Congress; was Elected Postmaster General of the Colonies.
- Tesla published a series of articles relating to his inventions; Lived in NYC alone and fed pigeons to cope with his financial and legal struggles; Developed new automotive engines for Budd Company.
- Russell sculpted the Mark Twain memorial; Lectured on his Cosmology; Continued his lectures to IBM executives and employees; Supervised the casting of his Four Freedoms sculpture; Lived in NYC alone and needed rejuvenation of health and spirit.

Franklin Pictures



Tesla Pictures

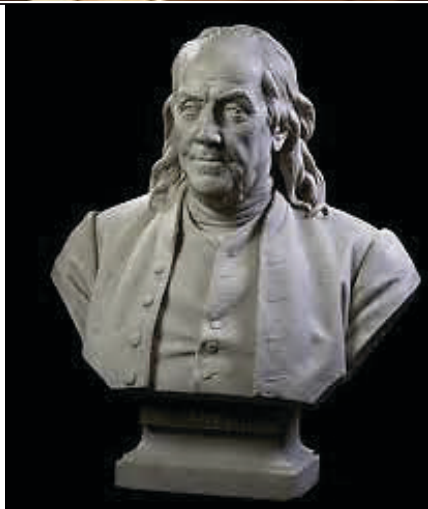


Tesla's Colorado Springs lab

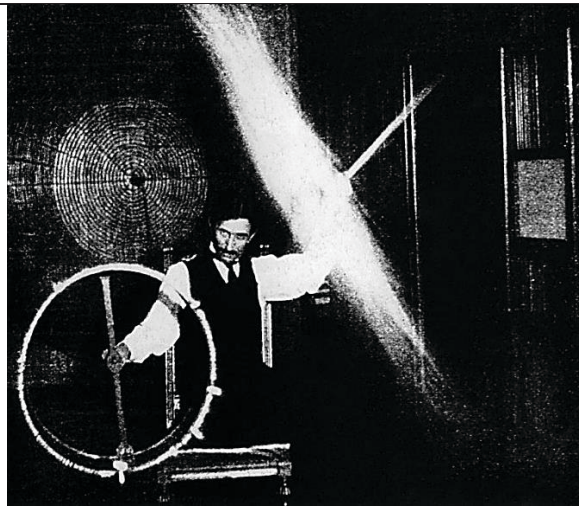
Russell Pictures



FDR bust.



Source: Public Domain.



Walter with The Four Freedoms.

**Exhibit 8 – Ben, Nikola & Walter’s 70s**

Age	Ben Year & Activity	Nikola Year & Activity	Walter Year & Activity
70 – 72	<p><b>1776</b>, age 70; Presided over the PA Constitutional Convention; Served on committee of Five who drafted the Declaration of Independence; Arrived in Paris as one of the Commissioners of Congress to the French Court. Ben also broke relations with his illegitimate son William (a British loyalist) over their American Revolutionary War differences.</p> <p><b>1777</b>, age 71; Ben met Madame Billon, an amour (secret lover).</p> <p><b>1778</b>, age 72; Ben signed the French Alliance. He was a major figure in the development of positive Franco-American relations. His efforts proved vital for the American Revolution in securing crucial munitions from France.</p>	<p><b>1928</b>, age 72; Tesla was granted two crucial patents from the U.S. Patent Department relating to aerial transportation which could be used for military purposes.</p>	<p><b>1941</b>: age 70; The American Academy of Sciences conferred a doctorate to Walter (after several laboratories isolated the elements which he had foreseen: Deuterium, Tritium, Neptunium and Plutonium).</p> <p><b>1942</b>: age 71; Walter Russell worked on the sculpture of Franklin Delano Roosevelt.</p> <p><b>1943</b>: age 72; Russell wrote <i>Letter to a Friend</i>, later published in <i>Caring for your Physical and Spiritual Health</i>. He continued working on the commission for President Franklin D. Roosevelt's Four Freedoms Monument.</p>
73 – 74	<p><b>1779 – 1780</b>, age 73 – 74; Appointed to negotiate England peace treaty.</p> <p>1780, age 74; Madame Helvetius rejected Franklin's offer of marriage.</p>	<p><b>1930</b>, Age 74; Tesla was asked to leave the Hotel Pennsylvania after residents complained about the droppings from his “flying rats” and because he was \$2,000.00 behind in his rent.</p>	<p><b>1944</b>: Age 73; Russell published <i>The Immortality of Man</i>; Published <i>Power Through Knowledge</i>, making references to the term “New Age” “...this New Age philosophy of the spiritual re-awakening of man...”</p>
75 – 77	<p><b>1781</b>, age 75; Ben continued peace treaty negotiations with England.</p>	<p><b>1931</b>, July 10, 75th birthday; Tesla was on the cover of “Time Magazine.” The “Blue Painting” portrait by Princess Lwoff-Parlaghy is used and the caption reads “Dr. Nikola Tesla has created the twentieth century.” He received congratulations from 70 pioneers in science and engineering, including Albert Einstein.</p>	<p><b>1946</b>: Age 75; Russell gave a talk, adapted into <i>The Fifth Kingdom Man</i> by USP in 1991. In June, Russell gave a talk, adapted into <i>Genius Inherent in Everyone</i> by USP in 1994. Russell also gave a talk - segments adapted into <i>The Secret of Working Knowingly with God</i>, Published by USP in 1993. Glenn Clark published <i>The Man Who Tapped the Secrets of the Universe</i>.</p>

**Exhibit 8 – Ben, Nikola & Walter’s 70s - Continued**

Age	Ben Year & Activity	Nikola Year & Activity	Walter Year & Activity
76 – 79	<p><b>1783 - 1784</b>, age 77 – 78; Continued to negotiate Peace Treaty with England.</p> <p><b>1784</b>, age 78; Ben signed Peace Treaty with England; Invented bifocals.</p> <p><b>1785</b>, age 79; Elected President of Pennsylvania Executive Council. Also, from 1785 to 1788, he served as governor of Pennsylvania.</p>	<p><b>1934</b>, age 77; Tesla reached a settlement with the Westinghouse Corporation that provided him with a \$125/month, along with the agreement to pay his monthly rent and expenses. Upon signing the agreement, Tesla promptly moved to the New Yorker Hotel, where he lived rent free for the rest of his life.</p> <p><b>1934</b>, March, age 77; Tesla wrote an article called “Possibilities of Electro-Static Generators” is published in “Scientific American” which features “Colossus”, a two-million-volt Van de Graff generator which is now on display at the Boston Museum of Science. June, Age 77; The City of Philadelphia awards Tesla with the John Scott Medal for the invention of the rotating magnetic field and induction motor. November, Age 78; Tesla developed a working charged particle beam weapon intended for use in national defense. Tesla also wrote to J.P. Morgan:  <i>“I have made recent discoveries of inestimable value... The flying machine has completely demoralized the world so much that in some cities, as London and Paris, people are in mortal fear from aerial bombing.”</i></p> <p><b>1935</b>, July 11, the day after Tesla’s 79th birthday, Tesla promised to transmit force. He is now convinced that many of the cosmic particles travel fifty times faster than light, some of them 500 times faster. 15 out of 16 of Marconi's Patent claims on the radio are invalidated by the Court of Claims and Tesla is acknowledged to have been prior inventor on these portions of Marconi's patent.</p>	<p><b>1947</b>, age 76; Russell published <i>The Secret of Light</i>. He wrote: "For within the secret of Light is vast knowledge not yet revealed to man. Light is all there is. If science knew what LIGHT actually IS, instead of the waves and corpuscles of incandescent suns which science now thinks it is, a new civilization would arise from that fact alone."</p> <p><b>1948</b>, age 77; Russell divorced is first wife and married Daisy Stebbing (Lao Russell), age 43. During their honeymoon, whereupon Walter drew Landscape 1 and Landscape 2. He also published <i>The Message of the Divine Iliad Volume 1</i>. The Russells discovered Swannanoa, a long abandoned palatial estate outside of Waynesboro, Virginia and leased it for fifty years. The Russell paintings, sculptures and historical documents were on display there. They then founded The University of Science and Philosophy – a home-study university.</p> <p><b>1949</b>, age 78; Russell published <i>The Message of the Divine Iliad Volume 2</i>. Also published <i>The Book of Early Whisperings</i> (sometimes placed as published in 1920).</p> <p><b>1950</b>, age 79; Walter &amp; Lao Russell published <i>The Home Study Course (first edition)</i>.</p>

Exhibit 8 illustrates that during their 70s:

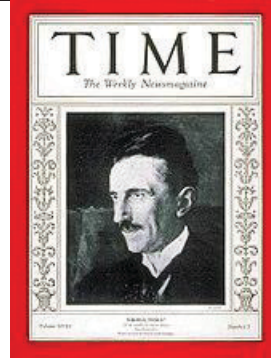
- Ben presided over the PA Constitutional Convention; Served on the Committee of Five who drafted the Declaration of Independence; Arrived in Paris as a Commissioner of Congress to the French Court; Broke relations with son William over American Revolutionary War differences; Signed the French Alliance; was Appointed to negotiate the England Peace Treaty; Signed the England Peace Treaty; Invented bifocals; was Elected President of the PA Executive Council; was Elected Governor of PA.
- Nikola was granted two patents relating to aerial transportation; was Asked to leave his hotel accommodations due to neighbor complaints about pigeons and past-due rent; Graced to cover of Time magazine on his 75<sup>th</sup> birthday; Reached settlement with Westinghouse to pay him a monthly fee, plus cover his living expenses for the remainder of his life; Published an article relating to Electro-Static generators; Developed a working charged particle beam weapon intended for use in national defense; Received word that the Court of Claims ruled 15 out of 16 Marconi patent claims pertaining to radio were nullified and that Tesla was the prior inventor.
- Walter had conferred upon him a Doctorate from the American Academy of Sciences; Worked on the FDR sculpture and Four Freedoms monument; Wrote “Caring for Your Physical and Spiritual Health” to a friend (later published); Continued to publish other works; Continued to lecture; Divorced his first wife and married Daisy Stebbing (Lao Russell); Continued to paint; Discovered Swannanoa Palace and established the University of Science and Philosophy there; Published the Home Study Course with Lao.

**Franklin Pictures**



1776.

**Tesla Pictures**



Tesla Time cover commemorating his 75<sup>th</sup> birthday.

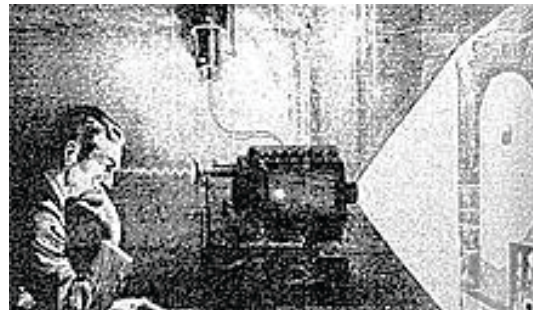
**Russell Pictures**



Swannanoa circa 1899  
(Home to Walter and Lao's University of S & P starting in 1948).



Ben in fur hat while Ambassador to France (1776 – 1785)



Newspaper depiction of the thought camera Tesla described at his 1933 birthday party.



Walter & Lao Russell at Swannanoa.

Source: Public Domain.

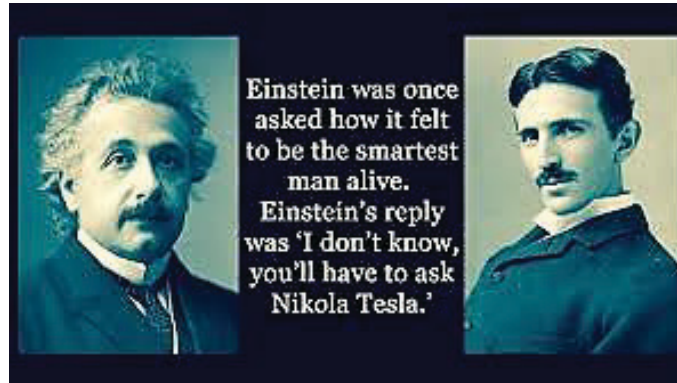


Franklin Pictures

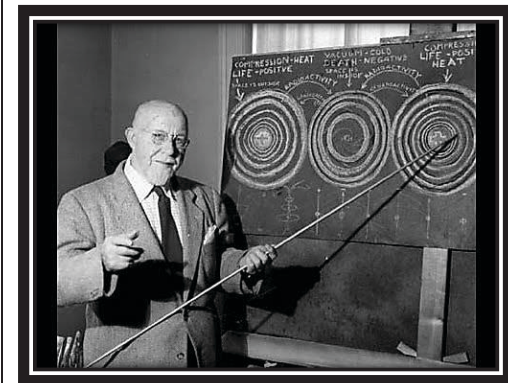


Ben's bust by Jean-Antoine Houdon, 1778.

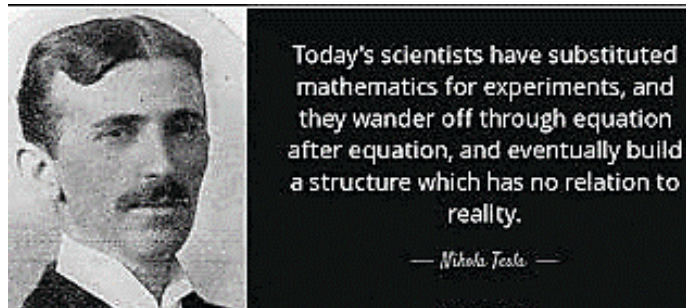
Tesla Pictures



Russell Pictures



Franklin's return to Philadelphia, 1785, by Jean Leon Gerome Ferris.



Walter's Lao Portrait and Walter w/Lao w/The Four Freedoms at Swannanoa.

Source: Public Domain.

**Exhibit 9 – Ben, Nikola & Walter’s 80s & 90s**

Age	Ben Year & Activity	Nikola Year & Activity	Walter Year & Activity
80 – 83	<p><b>1786</b>, age 80; Invented the "Long Arm," an instrument for taking down books from a shelf.</p> <p><b>1787</b>, age 81; Signed the U.S. Constitution.</p> <p><b>1788</b>, age 82; Completed terms as PA Governor.</p> <p><b>1789</b>, age 83; Wrote anti-slavery treatise; Became President of the Society for Promoting the Abolition of Slavery. He initially owned and dealt in slaves but, by the 1750s, he argued against slavery from an economic perspective and became one of the most prominent abolitionists.</p>	<p><b>1936</b>, July 10, 80th birthday; Tesla issued a 10-page statement that debated current theories on cosmic rays.</p> <p><b>1937</b>, July 10, 81<sup>st</sup> birthday; The Yugoslavian ambassador awarded Tesla the Grand Cordon of the White Eagle, that country’s highest honor.</p> <p><b>1937</b>, Age 81; While sitting on his bench, Tesla was approached by two men dressed in dark suits asking him about a “Death Ray” device he may be building. Tesla replied he had not invented such a device and unless they had papers from the U.S. Government they were not welcomed.</p> <p><b>1937</b>, Age 81; Tesla became increasingly confused and is struck by a taxi. His health never improved. He suffered heart and lung problems but generally refused medical attention. Tesla’s phobia of germs grew, and he did not want anyone to get within a few feet of him.</p> <p><b>1938</b>, Age 82; Tesla was very frail and weighed less than 100 pounds.</p>	<p><b>1951</b>, May 19, 80<sup>th</sup> birthday; Walter gave Lecturer Address at Portsmouth, Va. Armed Forces Day Celebration in front of highly ranked members of the U.S. Military – talk is published as <i>The Dawn of a New Day in Human Relations</i> in 1991 by USP; Russell also lectured <i>Caring For Your Physical and Spiritual Health</i> at Swannanoa in August (published by USP in 1994)</p> <p><b>1953</b>: Age 82; Russell re-published <i>The Home Study Course in Universal Law, Natural Science and Living Philosophy</i>; On February 13<sup>th</sup>, Walter sent <i>Open Letter to The World of Science</i> to 350 members of our National Academy of Science and Royal Society of London, 100 Universities, and 300 leading newspapers discussing his cosmology; Russell conducted a lecture series, partially released as <i>Living a Cosmic Life from the Mind</i>, including answers to student questions. Walter’s responses captured his wit, wisdom, and depth of scientific and philosophical understanding.</p> <p><b>1954</b>: Age 83; Walter &amp; Lao Russell published <i>Scientific Answer to Human Relations</i>; In August, Walter &amp; Lao Russell published <i>Newsletter of the University of Science and Philosophy</i> and stated “It will not take many years to utterly destroy the encircling protective walls which surround this planet and protect the earth from burning up by the sun’s hot rays.”</p>

**Exhibit 9 – Ben, Nikola & Walter’s 80s & 90s – Continued**

Age	Ben Year & Activity	Nikola Year & Activity	Walter Year & Activity
84 – 87	<p><b>1790</b>, April 17, age 84; Died in Philadelphia. at the age of 84. 20,000 mourners attended his funeral at Philadelphia's Christ Church Burial Ground. Franklin suffered from obesity throughout his middle-aged and later years, which resulted in multiple health problems, particularly gout, which worsened as he aged. In poor health during the signing of the US Constitution in 1787, he was rarely seen in public from then until his death.</p>	<p><b>1943</b>, January 6, Age 86; Tesla summoned a messenger boy to deliver an envelope containing \$100 for Mark Twain. Twain had been dead for some time, but Tesla insisted that he had visited his room the night before.</p> <p><b>1943</b>, January 7, Age 86; Tesla died alone and virtually destitute. His estate amounted to little more than \$2,000. Next morning, the hotel maid ignored a “Do not disturb” sign that had been in place for two days and found Tesla dead. Within 15 minutes the FBI arrived, taped off the two-room occupied by Tesla and removed his body. Tesla’s nephew arrived soon after , noticed Tesla’s safe had been opened and his papers tampered with. Within a day, the Immigration Department took over management of Tesla’s papers (hundreds of thousands of pages).</p> <p><b>1943</b>, April; The Lawsuit against wireless communication patents given to Marconi were over-turned and restored back to Tesla; all seventeen patents including radio, sadly 3 months after Tesla passed.</p>	<p><b>1955</b>: Age 84; Walter &amp; Lao Russell published <i>The World Crisis – Its Explanation and Solution</i>.</p> <p><b>Mid-1950s</b>, age mid-80s: Walter gave a series of lectures to classes at Swannanoa. USP releases <i>Final Lecture Series</i>. Walter Russell is unable to repeat his transmutation experiment while at Swannanoa in the 1950’s.</p> <p><b>1956</b>: Age 85; Walter &amp; Lao Russell published <i>The One-World-Purpose</i>. Walter talked to Swannanoa students, explaining the far-reaching effects of the poet-philosophers who established the Twilight Club and the University of Science and Philosophy’s historic connection with that inspired group.</p> <p><b>1957</b>: Age 86; Walter and Lao revised <i>The Home Study Course (second edition)</i>; Walter and Lao published <i>Atomic Suicide</i>, railing against the dangers of nuclear power.</p> <p><b>1958</b>: Age 87; Walter drew the scientific diagram <i>The Science of the Future is based upon God – the Creator</i>, the scientific <i>diagram Nature’s Method of Creating Power</i>, and the scientific diagram <i>The Cube and the Sphere are the Sole Working Tools of Creation</i>.</p>
88	Passed away.	Passed away.	<p><b>1959</b>, Fall, age 88; Walter invited General Chapman, Colonel Fry, Major Sargent, Major Cripe, and others from NORAD, to a meeting at Swannanoa during which Russell explained the workings of a device he proposed to build, to take advantage of the vacuum state of energy, and the two directional movement of energy from gravitation, (generation), to radiation, (degeneration).</p>

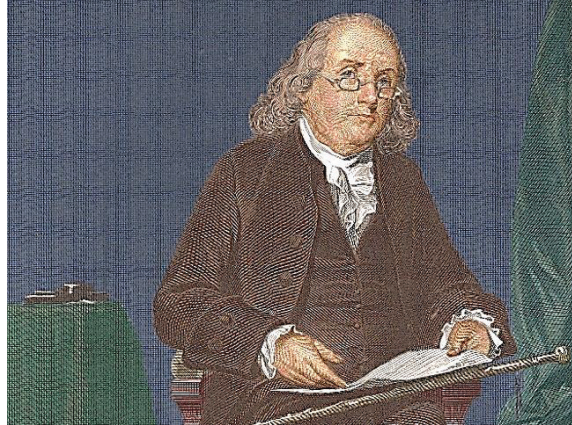
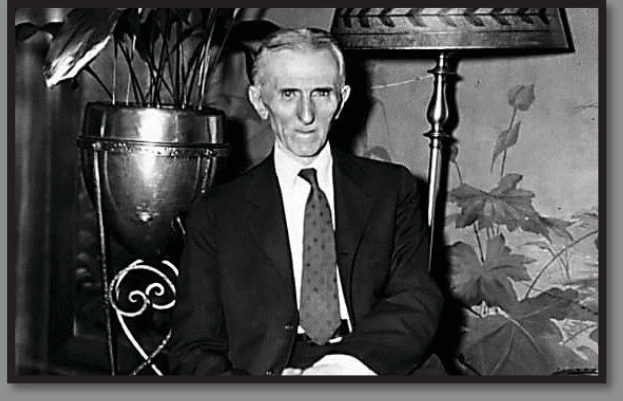
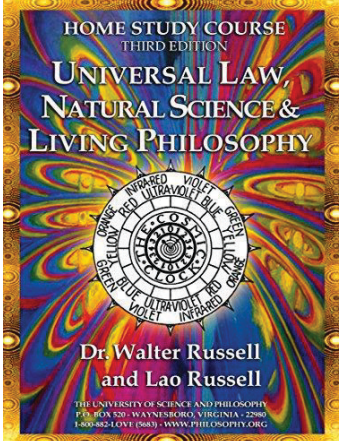



**Exhibit 9 – Ben, Nikola & Walter’s 80s & 90s – Continued**

<b>Age</b>	<b>Ben Year &amp; Activity</b>	<b>Nikola Year &amp; Activity</b>	<b>Walter Year &amp; Activity</b>
<b>89 - 92</b>	Passed away.	Passed away.	<p><b>1960</b>, age 89; Walter and Lao Russell, and their assistants build the prototype device consisting of two sets of dual and magnetically-sexed coils.</p> <p><b>1959 – 1962</b>, age 88 – 91; Walter completed scientific drawings explaining science and radiation.</p> <p><b>1962</b>, age 91; Walter and Lao revised <i>The Home Study Course (third edition)</i>.</p> <p><b>1963</b>, age 92; Walter painted his last painting called <i>Last Painting</i>; May 18<sup>th</sup>, Russell was still editing <i>A New Concept of the Universe: A Brief Treatise on the Russell Cosmogony</i>; May 19<sup>th</sup>, Walter re-folded (passed on) on his 92th Birthday, in Waynesboro, VA.</p>

Exhibit 9 illustrates that during their 80s and 90s:

- Ben invented the Long Arm to retrieve books from shelves; Signed the U.S. Constitution; Completed his term as PA Governor; Wrote an anti-slavery treatise; Became President of the Society for Promoting the Abolition of Slavery; Passed away on April 17, 1790 at the age of 84.
- Nikola issued a 10-page statement debating current theories on cosmic rays; was Awarded the Grand Cordon of the White Eagle, Yugoslavia’s highest honor; was Struck by a taxi in NYC (his health never improved); Passed away on January 7, 1943 at the age of 86.
- Walter gave a lecture on improving human relations to high-ranking military officers; Sent an “Open Letter to The World of Science” discussing his cosmology to National Academy of Science officials, the Royal Society of London, universities, and newspapers; Conducted a lecture series relating to *Living a Cosmic Life from the Mind*; Published

a University of Science and Philosophy newsletter warning about global warming (1954); Published *The World Crisis – Its Explanation* with Lao; Published *One-World-Purpose* with Lao; Published *Atomic Suicide* railing against the dangers of nuclear power (1958); Drew multiple scientific diagrams/drawings; Explained the workings of a device he proposed to build to take advantage of the vacuum state of energy; Built a prototype device consisting of two sets of dual and magnetically-sexed coils; Revised the Home Study Course several times; Painted his last painting called *Last Painting*; Passed away on May 19, 1963 at the age of 92.

Franklin Pictures	Tesla Pictures	Russell Pictures
		
	<p data-bbox="772 964 1033 1123"><b>Nikola Tesla Dies At 85 Alone in His Hotel Suite</b></p> <p data-bbox="802 1140 1033 1221">Celebrated Inventor, Born in Yugoslavia, An Electrical Wizard</p> <p data-bbox="772 1230 1045 1360">Nikola Tesla, 85, inventor of the Tesla coil, the induction motor and hundreds of other electrical devices, died last night in his suite at the Hotel New Yorker. According to hotel officials, he had been in failing health for two</p> 	 <p data-bbox="1558 1354 1835 1382"><b>Walter's Last Painting.</b></p>

Source: Public Domain.

Franklin Pictures

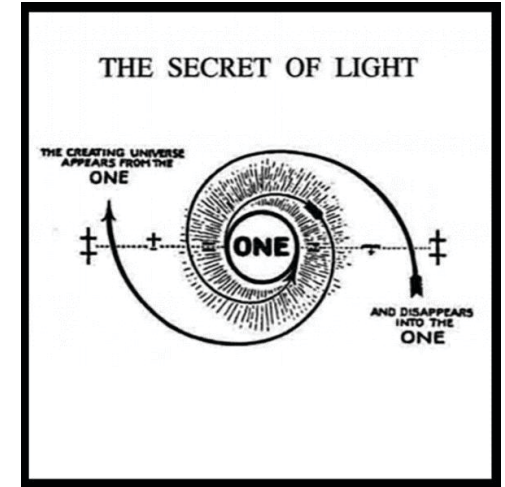


Tesla Pictures



Gilded urn with Tesla's ashes in his favorite geometrical object, a sphere (Nikola Tesla Museum, Belgrade).

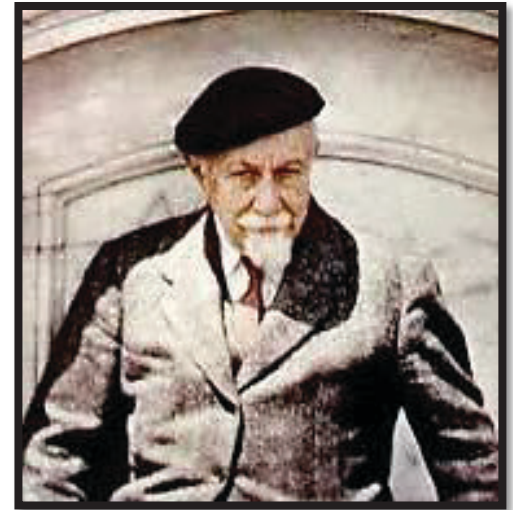
Russell Pictures



Ben's postage stamp, 1861.



Nikola Tesla statue in Niagara Falls, Ontario.



Source: Public Domain.

## Other Insights

### Franklin

As previously noted, Franklin was a prodigious inventor. Among his many creations were the lightning rod, glass armonica, Franklin stove, bifocal glasses and the flexible urinary catheter. Franklin never patented his inventions; in his autobiography he wrote, "... as we enjoy great advantages from the inventions of others, we should be glad of an opportunity to serve others by any invention of ours; and this we should do freely and generously."

Franklin saw the printing press as a device to instruct colonial Americans in moral virtue. He saw himself as uniquely qualified to instruct Americans in morality. Ben tried to influence American moral life through construction of a printing network based on a chain of partnerships from the Carolinas to New England. Franklin thereby invented the first newspaper chain. It was more than a business venture, for like many publishers since, he believed that the press had a public-service duty.

Franklin was, along with his contemporary Leonhard Euler, the only major scientist who supported Christiaan Huygens's wave theory of light, which was basically ignored by the rest of the scientific community. In the 18th century Newton's corpuscular theory was held to be true; only after Young's well-known slit experiment in 1803 were most scientists persuaded to believe Huygens's theory.

Franklin noted a principle of refrigeration by observing that on a very hot day, he stayed cooler in a wet shirt in a breeze than he did in a dry one. To understand this phenomenon more clearly Franklin conducted experiments. In 1758 on a warm day in Cambridge, England, Franklin and fellow scientist John Hadley experimented by continually wetting the ball of a mercury thermometer with ether and using bellows to evaporate the ether.<sup>[82]</sup> With each subsequent evaporation, the thermometer read a lower temperature, eventually reaching 7 °F (−14 °C). Another thermometer showed that the room temperature was constant at 65 °F (18 °C). In his letter *Cooling by Evaporation*, Franklin noted that, "One may see the possibility of freezing a man to death on a warm summer's day."

Like the other advocates of republicanism, Franklin emphasized that the new republic could survive only if the people were virtuous. All his life he explored the role of civic and personal virtue, as expressed in *Poor Richard's* aphorisms. Franklin felt that organized religion was necessary to keep men good to their fellow men, but rarely attended religious services himself.

One of Franklin's notable characteristics was his respect, tolerance and promotion of all churches. Referring to his experience in Philadelphia, he wrote in his autobiography, "new Places of worship were continually wanted, and generally erected by voluntary Contribution, my Mite for such purpose, whatever might be the Sect, was never refused." "He helped create a new type of nation that would draw strength from its religious pluralism."

He was also quoted as saying, "As to Jesus of Nazareth, my Opinion of whom you particularly desire, I think the System of Morals and his Religion, as he left them to us, the best the world ever saw or is likely to see; but I apprehend it has received various corrupt changes, and I have, with most of the present Dissenters in England, some Doubts as to his divinity; tho' it is a question I do not dogmatize upon, having never studied it, and I think it needless to busy myself with it now, when I expect soon an Opportunity of knowing the Truth with less Trouble. I see no harm, however, in its being believed, if that belief has the good consequence, as it probably has, of making his doctrines more respected and better observed; especially as I do not perceive that the Supreme takes it amiss, by distinguishing the unbelievers in his government of the world with any particular marks of his displeasure."

### **Franklin Virtues**

Franklin sought to cultivate his character by a plan of 13 virtues, which he developed at age 20 (in 1726) and continued to practice in some form for the rest of his life. His autobiography lists his 13 virtues as:

1. "Temperance. Eat not to dullness; drink not to elevation."
2. "Silence. Speak not but what may benefit others or yourself; avoid trifling conversation."
3. "Order. Let all your things have their places; let each part of your business have its time."
4. "Resolution. Resolve to perform what you ought; perform without fail what you resolve."
5. "Frugality. Make no expense but to do good to others or yourself; i.e., waste nothing."
6. "Industry. Lose no time; be always employ'd in something useful; cut off all unnecessary actions."
7. "Sincerity. Use no hurtful deceit; think innocently and justly, and, if you speak, speak accordingly."
8. "Justice. Wrong none by doing injuries or omitting the benefits that are your duty."
9. "Moderation. Avoid extremes; forbear resenting injuries so much as you think they deserve."
10. "Cleanliness. Tolerate no uncleanness in body, clothes, or habitation."
11. "Tranquility. Be not disturbed at trifles, or at accidents common or unavoidable."
12. "Chastity. Rarely use venery but for health or offspring, never to dullness, weakness, or the injury of your own or another's peace or reputation."
13. "Humility. Imitate Jesus and Socrates."



Franklin did not try to work on them all at once. Instead, he would work on one and only one each week "leaving all others to their ordinary chance." While Franklin did not live completely by his virtues, and by his own admission he fell short of them many times, he believed the attempt made him a better man contributing greatly to his success and happiness, which is why in his autobiography, he devoted more pages to this plan than to any other single point; in his autobiography Franklin wrote, "I hope, therefore, that some of my descendants may follow the example and reap the benefit."



### Franklin Quotes

"Tell me and I forget, teach me and I may remember, involve me and I learn."

"Many people die at twenty five and aren't buried until they are seventy five."

"Either write something worth reading or do something worth writing."

"In wine there is wisdom, in beer there is Freedom, in water there is bacteria."

"Three may keep a secret, if two of them are dead."

"A Penny Saved is a Penny Earned"

"You may delay, but time will not."

"Never ruin an apology with an excuse."

“Fear not death for the sooner we die, the longer we shall be immortal.”

“We are all born ignorant, but one must work hard to remain stupid.”

“By failing to prepare, you are preparing to fail.”

“Well done is better than well said.”

“Being ignorant is not so much a shame, as being unwilling to learn.”

“It is the first responsibility of every citizen to question authority.”

“Instead of cursing the darkness, light a candle.”

“The Constitution only guarantees the American people the right to pursue happiness. You have to catch it yourself.”

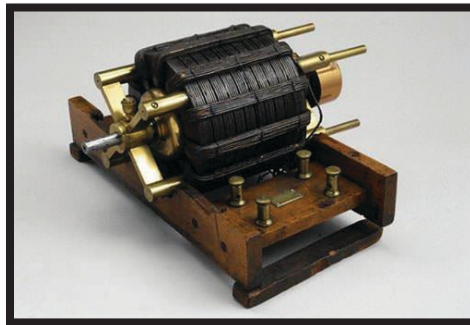
## **Tesla**

Tesla was a polyglot, speaking eight languages: Serbo-Croatian, Czech, English, French, German, Hungarian, Italian, and Latin. Tesla was repeatedly stricken with illness. He suffered a peculiar affliction in which blinding flashes of light would appear before his eyes, often accompanied by visions. Often, the visions were linked to a word or idea he might have come across; at other times they would provide the solution to a particular problem he had encountered. Just by hearing the name of an item, he would be able to envision it in realistic detail. Tesla would visualize an invention in his mind with extreme precision, including all dimensions, before moving to the construction stage, a technique sometimes known as picture thinking. He typically did not make drawings by hand but worked from memory. Beginning in his childhood, Tesla had frequent flashbacks to events that had happened previously in his life.

Almost everything we use and touch today is related to at least one of Tesla’s inventions and patents. Lighting, neon lights, television, radio, speakers, cell phones, anything wireless, speedometer, microwave, x-ray, MRI, blow dryer, vacuum, blender, fan, washing machine and dryer, any practical motor, etc. Tesla held over 300 different patents, spanning several countries. From wireless technology to alternating current, electric motors, Radio, X-Rays, radar and laser technology...the list goes on. Nikola Tesla’s work would go on to inspire thousands of inventors, dreamers and engineers.

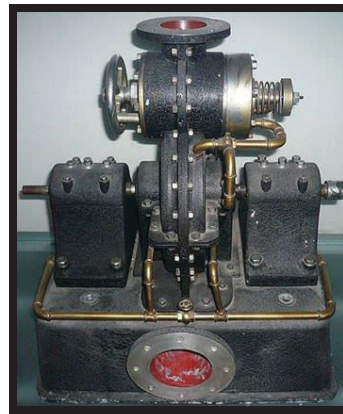
## Select Tesla Inventions

1. **Polyphase Alternating Current Induction Motor Patent in 1887 – 1888.** Considered one of the most useful inventions of modern times, the induction motor revolutionized the possibilities in the appliance industry. The three-phase induction motor continues to be used extensively in industry, households and electrical machines all around the world.



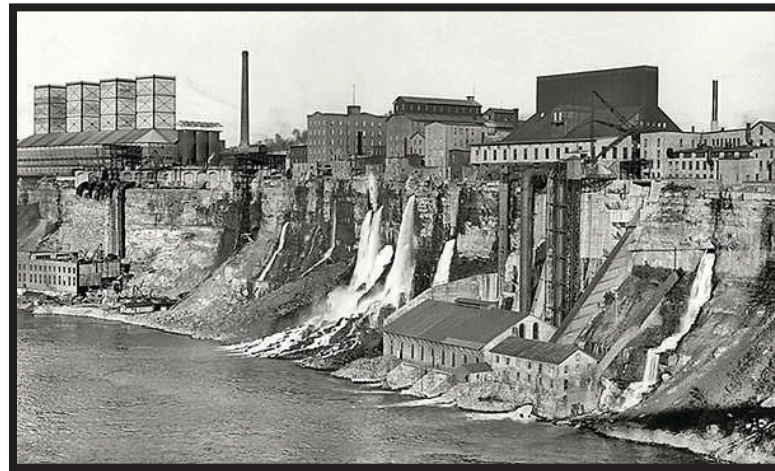
Tesla AC Induction Motor, Source: Public Domain.

2. **The Tesla Turbine as an alternative engine for mechanical machines.** Also referred to as a bladeless turbine, the Tesla Turbine used the boundary layer effect, and not a fluid impinging upon the blades as in a conventional turbine. The Tesla Turbine was patented in the year 1913 as an alternative to piston engines. It could be employed for drawing automobiles, airplanes and other vehicles. However, it was considered impractical and never gained success.



Tesla Turbine, Source: Public Domain.

3. **Tesla was instrumental in building on of the first hydroelectric AC power station at Niagara Falls.** The project carried power to Buffalo by 1896 and was one of the first power stations of its kind in the world.



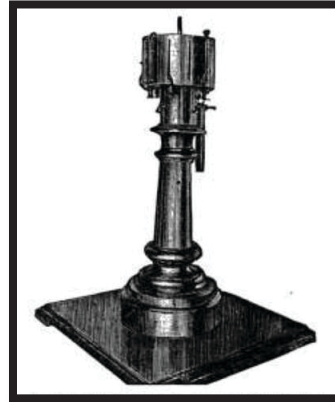
**Tesla-Westinghouse Niagara Falls Power Plant (1895), Source: Public Domain.**

4. **The Tesla Coil led to the possibility of wireless transmission.** Patented in 1891, the Tesla Coil was a truly revolutionary innovation, resulting in the wireless transmission of electricity (e.g., radios, televisions, cell phones, etc.).



**Homemade Tesla Coil, Source: Public Domain.**

5. **Tesla invented the Electro-Mechanical Oscillator.** Patented in 1893, this was a steam-powered electricity generator. Tesla he wanted it to replace the *inefficient reciprocating steam engines* used to turn generators. However, that was ultimately achieved by the development of *highly efficient steam turbines*.



Tesla Oscillator, Source: Public Domain.

6. **Tesla created one of the first wireless remote controls.** At an electrical exhibition at *Maddison Square Garden* in 1898, Tesla demonstrated the first *use of radio waves technology to control a boat remotely*. Tesla later tried to sell the technology he called "*tele automation*" to the U.S. military as a type of radio-controlled torpedo, but they showed little interest. However, the radio control technology continued to evolve over the years till it started being used for devices like TVs, DVD players etc.

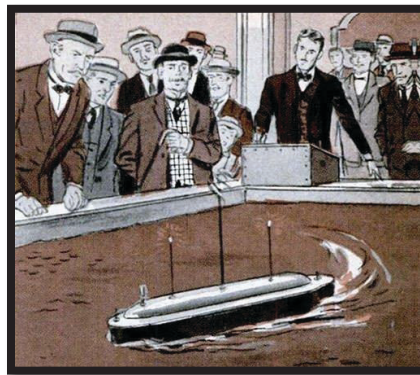


Illustration of Tesla's Presentation of a Remote-Controlled Boat, Source: Public Domain.

7. **Tesla played a key role in X-ray development.** In 1895, Tesla conducted experiments to produce images he called Shadowgraphs. He correctly realized that strong shadows could be produced only at great object-film distances and with short exposure times; and that thick walls produced rays with greater penetrating power. He was also the first to comment on the biological hazards of X-rays.



X-ray of a Hand Taken by Nikola Tesla, Source: Public Domain.

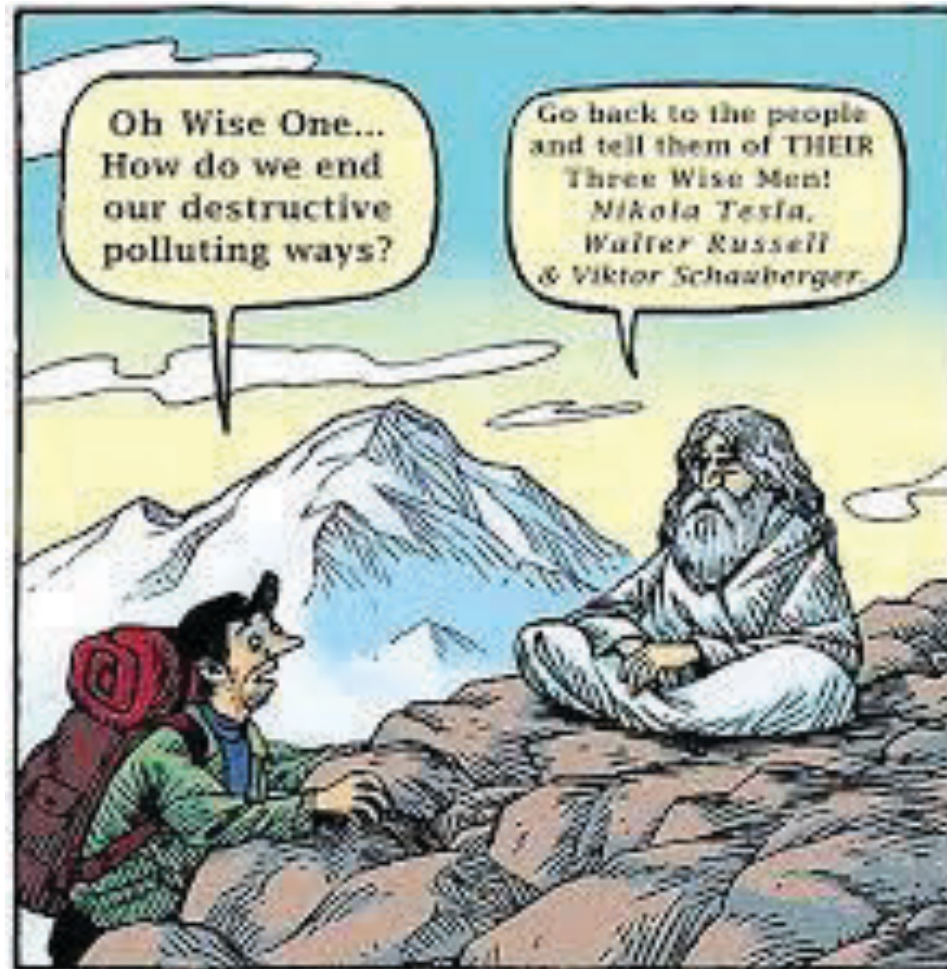
### Russell

Russell left a legacy that centers around his unique Cosmogony, or concept of the universe, having spent many years writing about the nature of humankind's relationship to the Universal One and the degrees of consciousness. His expansive art works have been recently been uncovered, after 20 years of neglect in a non-climate-controlled storage unit, and is now on display at the Russell Museum in Waynesboro, Virginia.

Russell wrote that "the cardinal error of science" is "shutting the Creator out of his Creation." Russell never referred to an anthropomorphic god, but rather wrote that "God is the invisible, motionless, sexless, undivided, and unconditioned white Magnetic Light of Mind" which centers all things. "God is provable by laboratory methods," Russell wrote, "The locatable motionless Light which man calls magnetism is the Light which God IS." He wrote that Religion and Science must come together in a New Age.

Walter's wife, Lao, offered some keen insights regarding her husband and his interaction with Nikola Tesla in their book Atomic Suicide: ""Practically every world-genius has been a "crackpot" to his neighbors. Poor Leonardo had to bury his inventions in sealed vaults, as Nikola Tesla told my husband he must also do, so that posterity could take advantage of

his "crackpot" ideas and inspirations." [Atomic Suicide, p. xix] "Nikola Tesla was, however, fully convinced that my husband's electrical knowledge was true to Nature, but it was so different from the accepted pattern that Tesla told him that he would have to seal it in a sepulcher with instructions that it be opened in a thousand years when human intelligence had unfolded far enough to be ready to accept it." [Atomic Suicide, p. xxiii]



Source: Public Domain.

## Walter Russell Publications

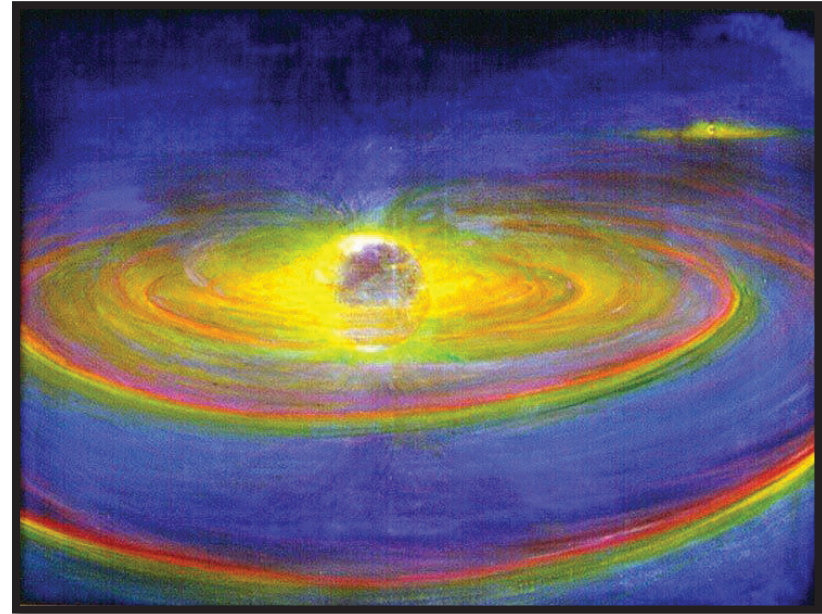
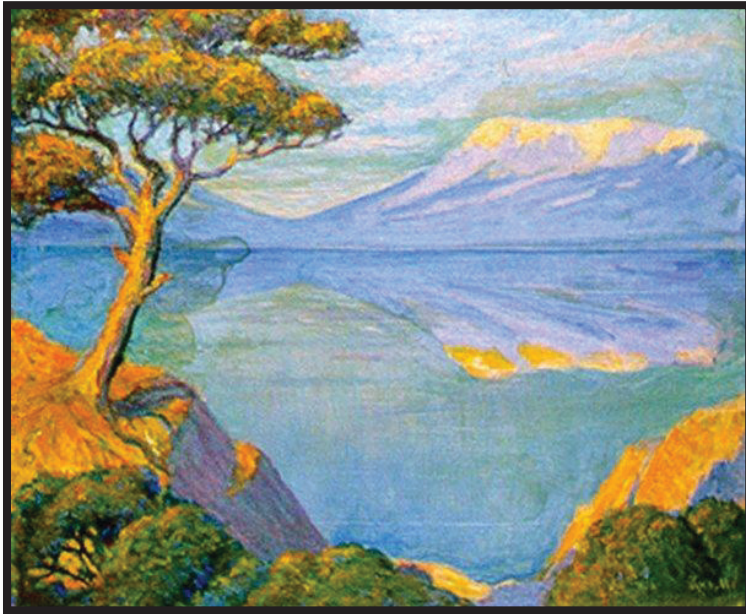
- *The Sea Children*, 1901
- *The Bending of the Twig*, 1903
- *The Age of Innocence*, 1904
- *The Universal One*, 1926
- *The Russell Genero-Radiative Concept or The Cyclic Theory of Continuous Motion*, L. Middleditch Co., 1930
- *The Secret of Light*, 1st ed., 1947, 3rd ed., Univ of Science & Philosophy, 1994, ISBN 1-879605-44-9
- *The Message of the Divine Iliad*, vol. 1, 1948, vol. 2, 1949
- *The Book of Early Whisperings*, 1949



**The Man Who Tapped the Secrets of the Universe (left); Matt Presti, President of University of Science and Philosophy, with the Walter Russell Self-Portrait Bust, at the Russell Museum in Waynesboro, VA (right). Source: Public Domain.**



- *The Home Study Course*, (with Lao Russell), 1st ed., 1950–52
- *Scientific Answer to Human Relations*, (with Lao Russell), Univ of Science & Philosophy, 1951
- *A New Concept of the Universe*, Univ of Science & Philosophy, 1953
- *Atomic Suicide?*, (with Lao Russell), Univ of Science & Philosophy, 1957
- *The World Crisis: Its Explanation and Solution*, (with Lao Russell), Univ of Science & Philosophy, 1958
- *The One-World Purpose*, (with Lao Russell), Univ of Science & Philosophy, 1960



Russell's Western Landscape (left); Dying Planet (right). Source: Public Domain.

### Books published after his death:

- *Think: The First Principle of Business Ethics*, Univ of Science & Philosophy, 2nd ed., 2003, ISBN 1-879605-73-2
- *Your Day and Night*, (excerpt from *The Message of the Divine Iliad*), Univ of Science & Philosophy, 1993, ISBN 1-879605-09-0
- *The Sculptor Searches for Mark Twain's Immortality*, (talk given 1934), Univ of Science & Philosophy, 1991, ISBN 1-879605-31-7
- *The Electric Nature of the Universe*, (talk given 1936), Univ of Science & Philosophy, 1991, ISBN 1-879605-00-7



Sam Spicher at Walter and Lao Russell's Gravesite near Swannanoa in 2019, © 2019 Jonathan V. L. Kiser.

- *Space and the Hydrogen Age*, (talk given 1939), Univ of Science & Philosophy, 1989
- *The Immortality of Man*, (talk given 1944), Univ of Science & Philosophy, 1991, ISBN 1-879605-33-3
- *The Fifth Kingdom Man*, (talk given 1946), Univ of Science & Philosophy, 1991, ISBN 1-879605-01-5
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- *The Dawn of a New Day in Human Relations*, (talk given 1951), Univ of Science & Philosophy, 1991, ISBN 1-879605-32-5
- *Caring for Your Physical & Spiritual Health*, (talk given 1951), Univ of Science & Philosophy, 1994, ISBN 1-879605-40-6
- *The Quest of the Grail*, (unfinished manuscript), Univ of Science & Philosophy, 1991, ISBN 1-879605-02-3
- *Where Do I Go When I Die*, (with Lao Russell), (excerpts from other books), Univ of Science & Philosophy, 1992, ISBN 1-879605-37-6
- *The Electrifying Power of Man-Woman Balance*, (with Lao Russell), (is the same as *The One-World Purpose* except 2 projects at the end of the book are missing), Univ of Science & Philosophy, 1988

**Franklin Pictures**



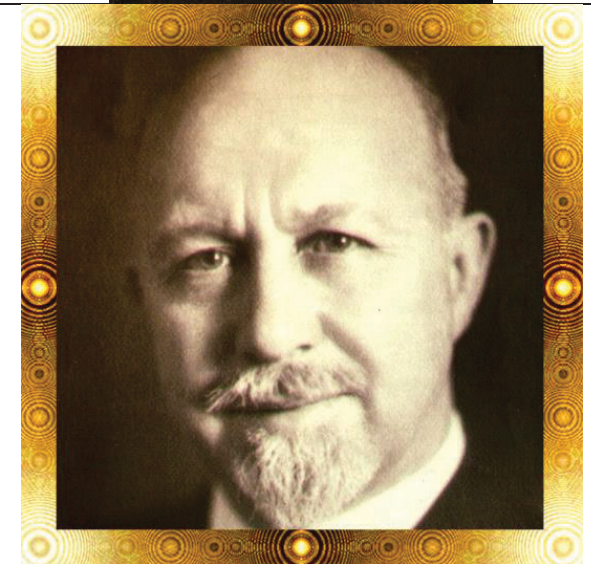
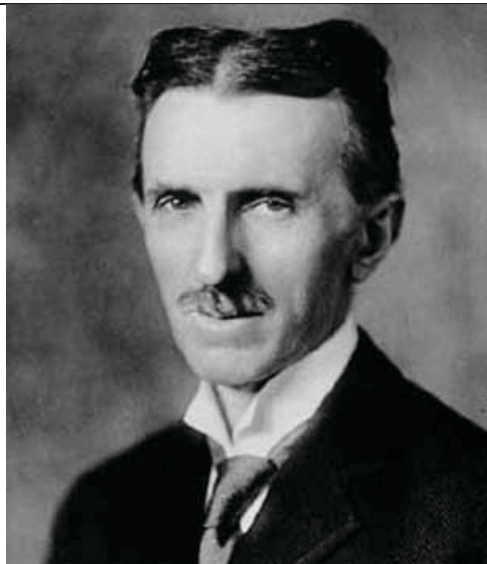
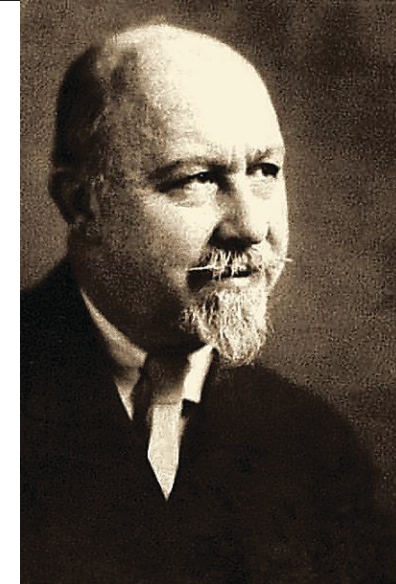
**Ben statue (seated), National Constitution Center, Philadelphia.**

**Tesla Pictures**



**Tesla's Wardencllyffe plant on Long Island in 1904. From this facility, Tesla hoped to demonstrate wireless transmission of electrical energy across the Atlantic.**

**Russell Pictures**



**Source: Public Domain.**

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### About the Author

**Jonathan V. L. Kiser, M.B.A.** has more than 40 years of experience working on behalf of public and private sector organizations internationally. He has been the President of Kiser Environmental Consulting since 1995 and provides services in the following areas: Program management, technical research, writing, and analysis, quality assurance/control/management, full cost accounting assessments, due diligence, benchmarking surveys, environmental audits, regulatory compliance, and strategic planning. His areas of subject matter expertise include: NEPA, integrated waste management, recycling, renewable energy, climate change, air quality, pollution control, energy conservation, and litter management.

Jonathan received his M.B.A. from George Washington University, and his B.S. in Resource Economics from the University of New Hampshire. He has more than 90 publications, including *The Lost Art of Walter Russell* (2011), which was a call to action to save the artwork of Walter Russell then being kept in a non-climate-controlled storage facility since 1998 at the increasing risk of being damaged. In addition, Mr. Kiser has taught environmental topics on an international level. Mr. Kiser is a Research Associate with the Columbia University Earth Engineering Center for Sustainable Waste Management in New York City, a member of James Madison University's Collaboration for Environment, Health and Safety, and a long-standing member of the Solid Waste Association of North America.

For more information, contact the author at: [www.kecgreen.com](http://www.kecgreen.com) or [kecgreen@aol.com](mailto:kecgreen@aol.com).



**The Author in Olympic National Park in 2018, © 2019 W. Rhett Kiser.**