

Just One



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I have always been interested in statements made by individuals on their philosophies of life. I ran across a statement several years ago by the great Irish playwright George Bernard Shaw, and it has stuck with me ever since:

“The reasonable man adapts himself to the world;
The unreasonable one persists in trying to adapt the world to himself.”¹

I read the first line of that quote and felt good about myself – yes, I’m a reasonable man. I try to fit in. I read the second line and felt even better. I’m not unreasonable. The question I have for you is, "Are you a reasonable or unreasonable person?" In answering that question, it might help to examine the lives of others who asked themselves the same question.

After I graduated with my Bachelor’s degree in 1966, I enlisted in the U.S. Air Force for five years, and during the first two, I was assigned as a missile launch officer. Our mission was to shoot down enemy bombers trying to come into the United States and Canada. I’ve been out of the Air Force for about 50 years now, so I don’t know how things are done or are organized today, but 50 years ago, the whole United States and Canada was divided into air defense sectors.

Each sector was responsible for tracking all aircraft, both military and civilian, within its sector. Sectors would hand aircraft off or receive aircraft as planes departed and entered sectors. Fifty years ago, the computer needed to handle such a load for one sector took up the whole floor of a large building. The backup computer took up another whole floor. A third floor was devoted to individuals on computer screens monitoring air traffic for any suspicious aircraft. The Air Force, in its wisdom, sent me to a Maintenance Management School in 1967. I remember only one thing the major teaching the class said. Now, remember, it took a computer so big that it took up the whole floor of a large building, and with that in mind, the major made the following statement:

“Wouldn’t it be great if computers could be small enough to fit on a desk and everyone could have one. No one would be responsible for anything because any mistake could always be blamed on the computer.”

Eight years later, in 1975, Bill Gates and Paul Allen founded Microsoft with nothing tangible to sell²; in 1976, Apple Computer was formed in the garage of Steve Job’s parents³. Certainly there were many others who contributed to the phenomena of the home computer industry, but these men stand out as examples of what single individuals can do if determined, even if sometimes it appears to be unreasonable.

Anyone who knows me knows that I have a love/hate relationship with computers – mostly hate – so I’m not in a position to talk a lot about computers or the computer industry, but I do know a little bit about science. Science falls into two broadly defined areas of research: experimental and observational.

I’m an observational biologist. I go out and observe. If I observe long enough, I find patterns. The hard part then comes in the interpretation of those observed patterns, that is, when a male gorilla stands up and beats his chest, is that a friendly greeting or a threat display? There is a pattern I have observed over my life time. The sun rises in the east and sets in the west. I have observed this in North America, Asia, the islands, and even in Europe. My interpretation is that the sun revolves around the earth. It seems logical, but Copernicus and Galileo disagree.

Copernicus was a mathematician and astronomer back in the late 1400s and mid-1500s. His studies suggested just the opposite of my interpretation of observations. He proposed that the earth revolves around the sun (Heliocentric theory) as opposed to the idea that the sun revolves around the earth with the earth as the center of the universe (Geocentric theory).⁴ Actually, scriptures support my idea:

[Psalms 93:1](#) – “the world also is stablished, that it cannot be moved.”

[Psalms 104:5](#) – “Who laid the foundations of the earth, that it should not be removed for ever.”

[1 Chronicles 16:30](#) – “the world also shall be stable, that it be not moved.”

[Ecclesiastes 1:5](#) – “The sun also ariseth, and the sun goeth down, and hasteth to his place where he arose.”

Copernicus was hesitant to publish his finding for fear of scorn and the incomprehensibility of his thesis. Even Martin Luther, in 1539, joined the argument:

“There is talk of a new astrologer who wants to prove that the earth moves and goes around instead of the sky, the sun, the moon. ... The fool wants to turn the whole art of astronomy upside-down. However, as Holy Scripture tells us, so did Joshua bid the sun to stand still and not the earth.”⁵

However, high ranking members of the Catholic Church encouraged Copernicus to publish his theory.⁶ He finally published his ideas in 1543 right before his death. The theory fell out of favor with the Catholic Church around 1615^{7,8}, and Galileo – a physicist, mathematician, engineer, astronomer, and philosopher – was called before the Roman inquisition to defend his support of Copernicus’s ideas. In 1616, the Inquisition ruled heliocentrism foolish and absurd since it contradicts Holy Scripture. Pope Paul V instructed Cardinal Bellarmine to inform Galileo to abstain from teaching and defending heliocentrism. Copernicus’s work was banned.^{9,10}

Galileo refrained for 10 years. By that time, a new pope, Urban VIII, had taken over the leadership of the Catholic Church. He was a friend of Galileo, as were the Jesuits, and he opposed the condemnation of Galileo. He asked Galileo to give arguments for and against heliocentrism in a book, *Dialogue Concerning the Two Chief World Systems*. However, Galileo went too far in the book and made the Pope and the Jesuits look foolish.⁹ He was called to Rome to defend himself.¹² He was threatened with torture if he didn’t tell the truth concerning his statements.¹³ He confessed, was found guilty of heresy, was forced to recant, was sentenced to house arrest for the rest of his life, and was required to read the seven penitential psalms (Psalms of Confession) once a week for three years. His daughter relieved him of that requirement by taking it upon herself.¹⁴ Galileo, however, continued to publish after his house arrest but in Holland, not Rome, in order to avoid Rome’s censorship. It is legend that when forced to admit to geocentrism, he stated, “And yet it moves.”

Galileo is considered the father of modern observational astronomy, father of modern physics, father of science, and the father of modern science. We may learn something from his words:

“I do not feel obliged to believe the same God who has endowed us with sense, reason, and intellect has intended us to forgo their use.”¹⁵

“In questions of science, the authority of a thousand is not worth the humble reasoning of a single individual.”¹⁵

James A. Garfield, twentieth president of the United States, served only 200 days of a four-year term. He was shot by an assassin on July 2, 1881, but died almost three months later on September 19, 1881. He didn’t die of his wound but died from infection introduced by the doctors who were trying to save him.¹⁶ Western medical culture of that time spoke of the “good old surgical stink”;¹⁷ doctors walked from street to surgical room without changing clothes, held silk sutures in button holes for easy access, refused to change or wash clothes between surgeries, and believed that the thicker the layers of dried blood and pus on their clothes, the better the surgeon. Country doctors thought country air was pure, and bad city air caused infections, so, therefore, they didn’t need antisepsis and would even apply hot poultices of cow manure to open wounds. Even if instruments were initially sterilized, surgeons would lay their sterilized instruments on unsterilized towels, pick up a sterilized knife that had fallen on the floor to use without re-sterilizing, hold scalpels in their mouths so they could use both hands for other things, and would stick unsterilized fingers or instruments into a wound to trace its path. And that is exactly what caused the death of President Garfield; his physicians probed his wound with unsterilized fingers and instruments, trying to determine its path.¹⁶ Even the editor of the *Medical Record* stated,

“We are likely to be as much ridiculed in the next century for our blind belief in the power of unseen germs, as our forefathers were for their faith in the influence of spirits, of certain planets and the like, inducing certain maladies.”¹⁸

The father of modern surgery, Joseph Lister, actually followed up on Louis Pasteur’s advances in microbiology.¹⁹ Pasteur showed that rotting and fermentation of food occurred under anaerobic conditions if microorganisms were present. He suggested that gangrene could be eliminated by one of three methods: 1) filtration, 2) exposure to heat, or 3) exposure to certain chemical solutions. Lister experimented with Pasteur’s methods and eliminated the first two for humans.²⁰ Lister spent years traveling the world proving the source of infection and pleading

with physicians to sterilize hands and instruments. Doctors of the day were enraged. One physician said, “The whole theory of antiseptis is not only absurd, it is a positive injury,”²¹ while another physician declared Lister’s “methods would be a return to the darkest days of ancient surgery.”¹⁶

Yet later in life Lister was recognized as “the greatest conqueror of disease the world has ever seen.”¹⁶ Thomas Bayard, the American ambassador to England, at The Royal Society’s gathering to honor the fiftieth anniversary of Lister’s doctorate, stated, “My lord, it is not a profession, it is not a nation, it is humanity itself which with uncovered head, salutes you.”²² Lister wasn’t the first to come up with the idea of antiseptis. Louis Pasteur was, but Lister was the one who finally convinced surgeons in Europe and the United States to practice antiseptis during surgery.

When I was an undergraduate at BYU-Provo in 1963, a friend of mine was hospitalized for gastric ulcers. At the time, gastric ulcers were considered a psychological disorder. A patient was put on a strict diet of bland foods and sent to a psychologist. It was believed the problem stemmed from the patient being under too much stress. A psychologist was needed to help the patient deal with the stress. However, a Greek general physician by the name of John Lykoudis proposed treatment with antibiotics in 1958 and, in fact, treated thousands of patients, but his work was ignored by drug companies and medical journals such as the Journal of the American Medical Association. He was even fined 4,000 drachmas (about 14 U.S. dollars) by a Greek medical disciplinary committee and indicted in the Greek courts.²³

About 24 years later, two Australian doctors, Robin Warren and Barry Marshall, linked the bacterium *Helicobacter pylori* with ulcers but not to stress or diet. The medical community was slow to accept these findings. Dr. Barry Marshall, therefore, exposed himself by drinking a vial of bacteria extracted from a patient with ulcers. Symptoms appeared within five days but disappeared after two weeks. He took antibiotics to kill the remaining bacteria at the urging of his wife because halitosis, bad breath, was one of the symptoms.²⁴ Results were published in 1984. However, physicians were still resistant to change, and as late as 1997, the Centers of Disease Control had to launch a campaign to educate doctors.²⁵ In 2005, Warren and Marshall received the Nobel Prize in the category of Physiology or Medicine. John Lykoudis made the connection, but it was Barry Marshall along with Robin Warren who drove it home. Their 1984 paper has now become one of the most cited medical articles.²⁶

Danny Thomas, a comedian, was having a difficult time catching a break. Money was tight, and his first child was about to be born. He attended Mass in Detroit and donated his last \$7.00. He prayed to St. Jude for help and a short time later landed a well-paying gig. He later promised St. Jude that if the Saint would make him successful, he would build a shrine to him. Danny Thomas did go on to be an extremely successful comedian and actor. In 1962, with the help of Dr. Lemuel Diggs and Anthony Abraham, a Miami, Florida auto dealer and close friend, Danny Thomas founded St. Jude Children’s Research Hospital, a hospital dedicated to the treatment and research of children’s catastrophic diseases.^{27, 28}

Although named for a Catholic saint, St. Jude’s is not a Catholic hospital and is not affiliated with any religious organization.²⁹ St. Jude’s is a nonprofit medical corporation whose operating costs equal 1.8 million per day³⁰, yet no child is denied treatment based on race, religion, or a family’s ability to pay.³⁰ The research at St. Jude’s has resulted in a survival rate of childhood acute lymphoblastic leukemia, the most common type of childhood cancer, from 4% in 1962 to 94% today.³¹ Childhood cancer survival has risen from 20% to 80% today³² all because of one man and his promise to a Saint.

The time was the mid-1800s. Slavery was an issue in the United States. The U.S. Congress passed the Fugitive Slave Law, which severely punished those abetting the escape of slaves even in states that outlawed slavery.³³ Araminta Ross was born a slave in about 1822.³⁴ Her owner was trying to sell her. According to Araminta,³³ “I prayed all night long for my master, till the first of March: and all the time he was bringing people to look at me,

and trying to sell me.”³⁵ When a buyer came forth, Araminta changed her prayer, “First of March I began to pray, ‘Oh Lord, if you ain’t never going to change that man’s heart, kill him, and take him out of the way.’”³⁵ He died a week later. Araminta thereafter expressed regret for those prayers.³⁴

Araminta married John Tubman and changed her first name to Harriet.^{33,34} John Tubman was a free black man while Harriet remained a slave.³³ Harriet and two brothers escaped on September 17, 1849,³⁴ but the brothers became fearful and returned, forcing Harriet to accompany them.³⁴ She escaped a second time, this time without her brothers, using the Underground Railroad.³⁴

Over the course of 11 years, she made 13 trips into slave states to rescue about 70 family members and friends, including three brothers and their wives and children.³⁴ On one trip, she tried to convince her husband to come out with her, but he had remarried and didn’t want to leave, so she took others.³⁴ Her method was to conduct rescues in the winter and on Saturdays. In winter, it was cold, and people stayed indoors, and it was dark longer. On Saturdays, the newspapers didn’t come out until Monday, so there would be no news of the escape for two days.³⁴ Wanted posters offering \$40,000 for her capture “Dead or Alive”; the \$40,000 may or may not have been the combined bounties in the region.^{33,34} She helped recruit men for John Brown’s raid on Harper’s Ferry, but never advocated violence against whites.³⁴

During the U.S. Civil War, she led a band of scouts to spy for the Union,³⁴ led an armed assault that rescued 750+ slaves,^{33,34} and worked as a nurse, even caring for patients with smallpox.³³ After the war, she was given a government pension but gave it up when others complained.^{33,34} Once, on a train after the Civil War, she refused to move to the smoking car, where Negroes were supposed to ride, and was forcibly moved by several whites.³⁴ If all this was not enough, after the war, she joined the struggle for women’s suffrage^{33,34} and lived in constant poverty.³⁴ She was often referred to as “General Tubman” and “Moses.”³³ She is listed as one of the 100 greatest African Americans.³⁶ The SS Harriet Tubman, a World War II liberty ship, was the first and maybe the only navy ship named for a black woman.³⁴ In 2002, an asteroid was named after her: 241528 Tubman.³⁷ However, the words of Frederick Douglass – himself born a slave, escaped, and well-known for his anti-slavery stance – capture the essence of Harriet Tubman:

“You [speaking of Harriet] ask for what you do not need when you call upon me for a word of commendation. I need such words from you far more than you can need them from me, especially where your superior labors and devotion to the cause of the lately enslaved of our land are known as I know them. The difference between us is very marked. Most that I have done and suffered in the service of our cause has been in public, and I have received much encouragement at every step of the way. You, on the other hand, have labored in a private way. I have wrought in the day – you in the night ... The midnight sky and silent stars have been the witnesses of your devotion to freedom and of your heroism. Excepting John Brown – of sacred memory – I know of no one who has willingly encountered more perils and hardships to serve our enslaved people than you have.”³⁸

When reflecting on her life, Harriet Tubman stated, “I had reasoned this out in my mind, there was one of two things I had a right to, liberty or death; if I could not have one, I would have the other.”³⁵ Harriet Tubman died in 1913 at the age of 91,³⁴ born a slave and a woman during a time when neither had power, and yet, as Frederick Douglas testified, what an impact she made. Harriet Tubman said, “Every great dream begins with a dreamer, always remember, you have within you, the strength, the patience, and the passion to reach for the stars to change the world.”³⁹

Let’s fast forward 100 years to Montgomery, Alabama and Rosa Parks, another black woman. Racial segregation was the law in southern states and was imposed on public facilities, retail stores, and public transportation. School buses only carried white children. On city buses, blacks, which made up to 75% of the riders, had to board via the rear doors and sit in the back of the bus and not board from the front doors or sit in the front seats. A sign was hung indicating where the white section ended and the black section began. The sign

could be moved further back if needed to accommodate more white travelers.⁴⁰ Rosa faced double bigotry as a black woman. Edgar Nixon, local leader of the National Association for the Advancement of Colored People (NAACP), stated, “Women don’t need to be nowhere but in the kitchen,”⁴¹ but he was willing to put up with Rosa as he needed a good secretary.^{41,42}

In 1943, Rosa boarded a bus by the front door. The driver told her to exit and reenter from the rear door as was the custom. Rosa exited the bus but refused to reboard and waited for the next bus.⁴³ A little over 12 years later on December 1, 1955, at 6 PM, Rosa boarded a bus and sat in the first row behind the white section. Several stops later, the driver, who happened to be the same driver who had evicted her 12 years earlier, moved the “white” sign further back because several white passengers were standing.⁴⁴ Four black passengers, three men and one woman, needed to move. The three black men moved, but not Rosa Parks.⁴⁵ She did scoot over to the window seat to make it easier for the white passengers to sit down, but she did not move further to the rear even when told to do so.⁴⁶ She was arrested.^{47,48} What followed was a trial and bus boycott by blacks. The trial lasted 30 minutes; she was found guilty and fined \$10.00 plus \$4.00 in court costs.⁴⁵

It was decided not to appeal the verdict under Rosa Parks’ name as it would be tied up in State court.⁴⁹ Instead, a law suit was filed in the U.S. District Court for the Middle District of Alabama on behalf of other women who had suffered the same discrimination as a case that violated the women’s civil rights. The court ruled that the women’s 14th Amendment for equal treatment was violated. Alabama appealed to the U.S. Supreme Court.⁵⁰

While the court cases were being heard, the black community was asked by Edgar Nixon, president of the NAACP Montgomery chapter, and by Jo Ann Robinson of the Women’s Political Council and a Alabama State College professor, to boycott the bus.⁵¹ The boycott lasted 381 days. Some rode in carpools while others rode cabs that only charged the bus rate of 10 cents, but 40,000 individuals walked, some up to 20 miles, to and from work. Rosa Parks was fired from her seamstress job at a local department store, her life was threatened for many years, her husband was fired, and she finally left Alabama for Virginia in order to find work,⁵² but on December 17, 1956, the U.S. Supreme Court upheld the lower court and ordered Alabama to desegregate buses.⁵⁰ The U.S. Congress called Rosa Parks “the first lady of civil rights” and “the mother of the freedom movement.”⁵³

Local communities in California and Ohio celebrate Rosa Parks Day on February 4, the day of her birthday, or on December 1, the day she was arrested.^{54,55} She received the NAACP’s 1979 Springarn Medal,⁵⁶ the Presidential Medal of Freedom, the Congressional Gold Medal, and, on the day of her funeral, President George W. Bush ordered all U.S. flags both within the country and abroad be flown at half-staff. A statue of her was placed in the U.S. Capital’s National Statuary Hall.⁵⁷

In spite of all this recognition, Rosa Parks was not wealthy. Although she had many speaking engagements, she always donated that money to the civil rights movement. In 2002, at the age of 89, she received an eviction notice from her landlord for owing \$1,800 in back rent. She was incapable at this time of managing her own finances due to age-related physical and mental decline. Her back rent was paid by the Hartford Memorial Baptist Church. When the owners of the apartment became aware of who she was, they announced that she would be allowed to live rent free the rest of her life.⁵⁸

Rosa Parks died October 14, 2005. She lay in state at the Capitol Rotunda in Washington D.C. as the 31st person, first woman, second African American, second non-governmental official, and the first American non-governmental official to be so honored.^{59,60} Rosa Parks said, “You must never be fearful about what you are doing when it is right,”⁶¹ and quoting David Icke she said, “Today’s mighty oak is yesterday’s nut that held its ground.”⁶²

For the first 150 years of the United States, women were denied the vote as women around the world generally

were. Women's suffrage (right to vote) gained momentum in the 1840s. The women's suffrage movement worked primarily at the State level. Susan B. Anthony actually voted in 1872 and was arrested and found guilty of breaking the law.^{63,64} The Supreme Court ruled against women's suffrage in 1875, and this began a campaign to amend the constitution.⁶⁵

To amend the U.S. Constitution takes a 2/3 vote of both the House of Representatives and the Senate. A presidential signature is not required, but the amendment must be ratified by 3/4 of the States. After much political infighting, on June 4, 1919, the U.S. Congress passed the resolution for the Nineteenth Amendment, and it went to the States for ratification.^{66,67} Thirty-six States were needed to ratify. Thirty-five had done so by March 22, 1920. Tennessee was next.^{68,69,70}

The Southern States, for the most part, were against women suffrage, and even many southern women were against it. Individuals who supported suffrage wore a yellow rose, those against a red rose. The measure passed the Tennessee Senate without problem but was held up in the House.⁷¹ The vote had come to the House floor several times, and each time, it was a draw: 48 to 48. The call came to table the measure; again, the vote was 48 to 48, so the measure remained active before the floor.

The Speaker called for another vote.⁷¹ Harry Burn, a 24-year old representative from East Tennessee and the youngest member of the legislature, and one who had only served for two years at the time, was against suffrage, wore a red rose, and was the last to vote. That very morning, he received a note from his mother. While holding his mother's note, but still wearing the red rose for anti-suffrage, Harry Burn voted "aye" rather than "nay."⁷¹ The vote was 49 to 47. Tennessee was the 36th State to ratify, the date August 18, 1920. An apocryphal story arose that Harry Burn, upon voting, immediately ran from the chamber and hid in fear.^{72,73} How did Harry Burn justify the "aye" vote for suffrage? He later declared, "I believe we had a moral and legal right to ratify,"⁷¹ and "I know that a mother's advice is always safest for her boy to follow and my mother wanted me to vote for ratification."⁷¹

His mother's note read, "Hurrah, and vote for suffrage! Don't keep them in doubt. I notice some of the speeches against. They were bitter. I have been watching to see how you stood, but have not noticed anything yet. ... Be a good boy and help Mrs. Catt (Carrie Chapman) put the 'rat' in ratification."⁷²

Phoebe Burn, mother of Harry Burn, never received any of the accolades that others have for taking a stand, but nevertheless, she epitomizes the point I have been trying to make – it only takes one to make a difference. The Nineteenth Amendment passed. All citizens, regardless of gender, were able to vote. Although by federal law, all citizens were allowed to vote, including the women of Mississippi, it wasn't until 1984 that Mississippi became the last state to actually ratify the Nineteenth Amendment.⁶⁸

I apologize for using mainly examples from American history and not even the more famous ones such as Martin Luther King. I've used mainly American examples because I'm most familiar with them, but these types of individuals exist in all countries and in all cultures, individuals such as Mahatma Gandhi, Nelson Mandela, and Lech Walesa. I have not included the many religious leaders that have made a difference such as Buddha, Confucius, Muhammad, Martin Luther, Moses, Joseph Smith, and, of course, Jesus Christ.

Now, don't misunderstand; the individuals spoken of above were not anarchists. In all things, they were reasonable. It was for one overriding principle that they made a stand and were considered by the rest of the world to be unreasonable. Christ Himself, when confronted about paying tribute to Caesar, said, "Render therefore unto Caesar the things which are Caesar's."^{75,76}

We are here today because one man, President David O. McKay, had a vision of this school and what it could mean to the world. This school and you should and could become an influence on the world. Many of you will

find yourselves in a position to affect worldwide change. Others may be in a position to only change the life of a single person, but to that one person, his family, and his descendants, it is possibly the most important change in the world. We will all find ourselves at some point having to decide to be “reasonable or unreasonable” whether in business, science, politics, or on some moral issue in one of its many forms, and so again I ask, “Which will you be? Reasonable or unreasonable?”

I actually didn't finish George Bernard Shaw's statement, so let me do it now, starting from the beginning:

“The reasonable man adapts himself to the world;

The unreasonable one persists in trying to adapt the world to himself.

Therefore, all progress depends on the unreasonable man.”¹

References

1 http://en.wikiquote.org/wiki/George_Bernard_Shaw

2 http://en.wikipedia.org/wiki/Bill_Gates

3 Linzmayer, O. W. 1999. Apple confidential: The Real Story of Apple Computer, Inc. – The Forgotten Founder. Denverpost.com.

4 Linton, C. M. 2004. From Eudoxus to Einstein: A History of Mathematical Astronomy. Cambridge, Cambridge University Press, pp 516.

5 Mathesius, J. 1566. Tischreden (Table Talk). Eisleben, Germany.

6 von Schönberg, Cardinal Nikolaus(Archbishop of Capua).1536. Letter to Copernicus (included in De Revolutionibus Orbium Coelestium 1543 1st Ed) Translation and Commentary by Edward Rosen, The John Hopkins University Press, Baltimore.

7 Langford, Jerome J. 1992. Galileo, Science and the Church. 3rd Ed, St. Ann Arbor, Michigan, University of Michigan Press.

8 Drake, Stillman. 1978. Galileo at Work: His Scientific Biography. Chicago, University of Chicago Press.

9 Brodrick, James. 1961. Robert Bellarmine – Saint and Scholar. Westminster, Maryland, Newman Press, pp 430.

10 Sharratt, Michael. 1994. Galileo: Decisive Innovator. Cambridge, Cambridge University Press.

11 Hilliam, R. 2005. Galileo Galilei: Father of Modern Science. The Rosen Publishing Group.

12 Lindberg, David & Ronald L. 1987. Beyond War and Peace: A Reappraisal of the Encounter between

Christianity and Science.

13 Sharratt, Michael. 1994. Galileo: Decisive Innovator. Cambridge, Cambridge University Press.

14 Shea, William. 2006. The Galileo Affair (unpublished). Gruppo de Investigación sobre Ciencia, Razon y Fe (CRYF).

15 <http://www.brainyquote.com>

16 Millard, Candice. 2011. Destiny of the Republic – A Tale of Madness, Medicine, and the Murder of a President. Anchor Books, New York, pp 198.

17 Raffensperger, John G. 2012. Children’s Surgery: A Worldwide History. Jefferson, North Carolina, McFarland & Co, pp 340.

18 Shrady, George Frederick. 1879. The causes of Disease. Medical Record 16:107.

19 Pitt, Dennis & Aubain, Jean-Michel. 2012. Joseph Lister; Father of Modern Surgery. Canadian Journal of Surgery 55(5): E8-E9.

20 http://en.wikipedia.org/wiki/Joseph_Lister,_1st_Baron_Lister

21 Wrench, G. T. 2013. Lord Lister, His Life. London, Forgotten Books (Original work published 1913), pp 193.

22 Libby, Walter. 1922. The History of Medicine in Its Salient Features. Antiseptic Surgery. Boston, Houghton Mifflin Co. p 351-352.

23 Rigas, Basil & Efstathios D. Papavassassiliou. 2002. John Lykoudis. The general practitioner in Greece who in 1958 discovered the etiology of, and a treatment for, peptic ulcer disease. In: Marshall, Barry (Ed) Helicobacter Pioneers. Firsthand Accounts from the Scientists who discovered Helicobacters, 1892-1982. John Wiley & Sons, pp 74-88.

24 Marshall, Barry. 2005. Barry J. Marshall – Biographical. Nobelprize.org. Nobel media AB 2014. Web 29 Mar 2015.

(http://www.nobelprize.org/nobel_prizes/medicine/laureates/2005/marshallbio.html)

25 Center for Disease Control (CDC). 1997. Ulcer, diagnosis and Treatment – Helicobacter pylori and Peptic Ulcer Disease.

- 26 Van der Weyden, Martin B., Ruth M. Armstrong, & Ann T. Gregory. 2005. The 2005 Nobel Prize in Physiology or Medicine. *Medical Journal of Australia* 183 (11): 612-614.
- 27 The National Shrine of St. Jude. Shrineofstjude.claretians.org
- 28 Danny's promise. (Stjude.org.)
- 29 Is this a Catholic hospital? Can you say a novena for me? Stjude.org
- 30 Wikipedia.org/wiki/St.Jude_Children's_Research_Hospital
- 31 Pui, C.H. et al. 2009. Treating childhood acute lymphoblastic leukemia without cranial irradiation. *New England Journal of Medicine* 360(26): 2730-2741. doi: 10.1056/NEJMoa0900386
- 32 St Jude Facts. Stjude.org
- 33 Clinton, Catherine. 2004. *Harriet Tubman: The Road to Freedom*. New York: Little, Brown and Company.
- 34 Larson, K. C. 2004. *Bound for the Promised Land: Harriet Tubman, Portrait of an American Hero*. New York: Ballantine Books.
- 35 Bradford, S. H. (orig. pub. 1869). 1971. *Scenes in the Life of Harriet Tubman*. Freeport: Books for Libraries Press.
- 36 Asante, M. K. 2002. *100 Greatest African Americans: A Biographical Encyclopedia*. Amherst, NY: Prometheus Books.
- 37 The International Astronomical Union: Minor Planet Center Circular 89086.
- 38 Bradford, S. H. (orig. pub. 1886), 1961. *Harriet Tubman: the Moses of Her People*. New York: Corinth Books.
- 39 Brainy Quotes: www.brainyquote.com/quotes/quotes/h/harriettub310306.html
- 40 Shipp, E. R. 2005. Rosa Parks, 92, Founding Symbol of Civil Rights Movement, Dies. *New York Times* Oct. 25, 2005.
- 41 Olson, L. 2001. *Freedom's Daughters: The Unsung Heroines of the Civil Rights Movement from 1830 to 1970*. Simon & Schuster, New York.
- 42 Feeney, M. 2005. Rosa Parks, Civil Rights Icon, Dead at 92. *Boston Globe* October 25, 2005.

- 43 Woo, E. 2005. She Set Wheels of Justice in Motion. Los Angeles Times Oct 25, 2005.
- 44 Neary, L. 1992. Parks Recalls Bus Boycott, Excerpts from an Interview with Lynn Neary. National Public Radio.
- 45 CNN. 2005. Civil Rights Icon Rosa Parks Dies at 92, Oct. 25, 2005.
- 46 National Public Radio. 2005. Civil Right Icon Rosa Parks Dies – Interview. Oct. 10, 2005.
- 47 Williams, J. 2002. Eyes on the Prize: America’s Civil Rights Years, 1954-1965. Penguin Books.
- 48 Academy of Achievement. 1995. Rosa Parks Interview, June 2, 1995.
- 49 King Institute Encyclopedia. 1956. Browder v. Gayle, 352 U.S. 903.
- 50 Ingram, B. 1956. Supreme Court Outlaws Bus Segregation
- 51 Dove, R. 1999. Heroes and Icons: Rosa Parks: Her Simple Act of Protest Galvanized America’s Civil Rights Revolution. Time June 14, 1999.
- 52 Theoharis, J. 2009. A Life History of Being Rebellious: The Radicalism of Rosa Parks. In: Want to Start a Revolution? Radical Women on the Black Freedom Struggle, Ed: D. F. Gore et al. New York University Press.
- 53 106th Congress Public Law 26 – Public Law 106-26.
- 54 California Chapter 15 ACR 116.
- 55 www.timeanddate.com/holidays/us/rosa-parks-day
- 56 Springarn Medal Winners: 1915 to Today.
- 57 President. 2005. Signs H. R. 4145 to Place Statue of Rosa Parks in U.S. Capitol Dec. 1, 2005.
- 58 Associated Press. 2004. Landlord Won’t Ask Rosa Parks to Pay Rent. Dec. 6, 2004. NSNBC.
- 59 Architect of the Capitol. 2009. Those Who Have Lain in State. Dec. 12, 2009.
- 60 Architect of the Capitol. Memorial of Funeral Services in the Capitol Rotunda.
- 61 www.goodreads.com/quotes/46053.rosa.parks
- 62 www.goodreads.com/quotes/71619
- 63 Gordon, A. D. The Trial of Susan B. Anthony: A Short Narrative. Federal Judicial Center.
- 64 Gordon, A. D. The Trial of Susan B. Anthony: Legal Questions Before the Federal Courts. Federal

Judicial Center.

65 Briffault, R. 2002. The Contested Right to Vote. Michigan Law Review 100:1521-1522.

66 www.govtrack.us/congress/votes/66-1/s13

67 Stansell, C. 2011. The Feminist Promise. New York, The Modern Library.

68 Mount, S. 2007. Ratification of Constitutional Amendments.

69 Milwaukee Journal. 2010. Claim Wisconsin First to O.K. Suffrage. Nov. 16, 2010.

70 Hiers, C. 2009. The Nineteenth amendment and the War of the roses. BlueShoe Nashville.

71 www.history.com/news/the-mother-who-saved-suffrage-passing-the-19th-amendment

72 Tennessee State Library and Archives. Remember the Ladies: Women Struggle for an Equal voice.

73 Sims, A. Woman Suffrage Movement. Tennessee Encyclopedia of History and Culture.

74 Catt, C. C. & N. R. Shuler. 1926. Woman Suffrage and Politics; the Inner Story of the Suffrage Movement. C. Scribner's Sons, New York.

75 [Matthew 22: 15-22.](#)

76 [Mark 12:13-17.](#)