Patrick Brontë and his four creative Genii:
The causes and effects of their early deaths

The four creative Genii—Charlotte-Tallii, Branwell-Brannii; Emily-Emmii and Anne-Annii developed skills as writers early in life because of the profound influence of their father, Patrick Brontë—whose educational views were strongly influenced by Wordsworth—encouraged his children to roam freely on the moors, read whatever they liked from his bookshelves, gave them lessons in geography, history, and mathematics, and also managed to pay for art and music lessons on his poor clergy salary[1] (Introduction).

Although Patrick Brontë's home schooling and liberal encouragement to explore nature were factors in the Brontë children becoming such creative geniuses, ultimately, it may have been his genetic code, proximity and medical and outside educational decisions that contributed to the early deaths of his children.

In order to understand the above notions relating to the contributing factors towards the deaths of Charlotte, Branwell, Emily and Anne, it is important to look at Patrick Brontë's genetic and physical dispositions and cultural, behavioral and sociological aspects of spatial distances of the environments and individuals in which the Brontë family lived and ultimately died (proximity)—including Maria Branwell Brontë, and Maria and Elizabeth Brontë.

Dr. John J. Ross, Shakespeare's Tremor and Orwell's Cough: The Medical Lives of Great Writers,[2] hypothesizes that all six Brontë children died from a single strain of *mycobacterium tuberculosis,* and other underlying genetic predispositions and brain abnormalities that were passed on through inheritance and environmental causes, like stress disorders; Asperger syndrome; mood disorders; body dysmorphic disorder; and personality disorders (anxious personality disorder, antisocial personality disorder, borderline personality disorder, histrionic personality disorder, narcissistic personality disorder, and obsessive-compulsive personality disorder). Because Maria and Elizabeth died at such early ages, it is difficult to assess whether either one of them had any genetic disorders, except that Maria appeared quite precocious; focused; and able to

[1] Alexander, Christine, ed. *The Brontës. Tales of Glass Town, Angria, and Gondal*. Selected Writings. Oxford University Press. Oxford. 2010

[2] Ross, John. J., M.D. *Shakespeare's Tremor and Orwell's Cough*: The Medical Lives of Great Writers. St. Martin's Press. New York 2012. Chapter 4. *Some Sweet Poisoned Breeze had Passed into her Lungs:* The *Brontës and Tuberculosis.*

endure extreme amounts of pain without complaints, conditions that might have been indications Maria had Asperger syndrome.

Patrick and Maria Branwell Brontë

Dr. Ross posits that Patrick Brontë may have had Asperger Syndrome[3] along with the Depressive Mood Disorder.[4] I believe that he also had an Obsessive-Compulsive Personality Disorder.[5] These three genetic anomalies in most people might have limited their abilities to cope with life's challenges, but for Patrick, they actually instilled in him unique qualities that pushed him forward to achieve great successes in life and to overcome many difficulties.

Asperger syndrome can impair social interaction, and in some individuals even cause aggression, but in Patrick Brontë it appeared to help him focus on future goals by restricting and narrowing his interests to certain activities; develop superior verbal skills; as a means of expression to stimulate his artistic and creative skills; and develop an excellent memory for retention of details. It might also have provided the ability to endure extreme pain.

Patrick Brontë's obsessive-compulsive personality disorder gave him the stamina and discipline to do the repetitive tasks needed for learning as a student, and required as a clergyman over a lifetime of service.

The mood disorder of depression may have been a downside in most people, but because of the Asperger syndrome, it gave Patrick Brontë the compassion that he might have lacked because of this genetic disorder.

Because Patrick Brontë lived to the ripe old age of eighty-four, I would like to add that he also had a coping mechanism called "hardiness" that he may developed through extreme mind and body regimens required to work on his father's farm.[6]

Little is known about the Brunty family genetic history because Patrick distanced himself after leaving Ireland in 1802 and never revisited them again in his lifetime—although he did send a few letters to one of his brother's related to Irish political issues. So, it is possible that other members of Patrick's family may have had some of the genetic disorders associated with Charlotte, Branwell, Emily and Anne—discussed later in this paper.

[3] Asperger syndrome—see Appendix C, P. 26
[4] Depressive Mood Disorder—see Appendix J, P. 35-36
[5] Obsessive-Compulsive Personality Disorder—see Appendix K, P. 40
[6] Hardiness—see Appendix H, P. 31

What is known about Hugh Brunty is that he was an orphan who managed—through hard work and discipline— to comfortably support his large family as a farmer and minor tradesman. Eleanor Brunty—his wife—was literate; able to birth ten children in nineteen years; and described as "not very pretty."[7]

Patrick Brontë, born on March 17, 1777 in the parish of Drumballyroney County Down, Ireland, was the eldest of the ten children born to Hugh and Eleanor Brunty (Prunty). His exposure to the discipline and the outdoor rigors of farming as a youth contributed to Patrick developing confidence in being capable of mastery over difficult tasks and problem solving; self-directed learning and goal-setting. An example of which surfaced when he established a village school at the age of sixteen in 1793. After teaching for five years, Patrick made the strategic decision of becoming a tutor for the children of Reverend Thomas Tighe—a wealthy landed gentry, who was also half-brother to two members of the Irish Parliament and chaplain to the Earl of Glandor.

The importance of this decision gave Patrick Brontë the opportunity to display his discipline and aptitude for learning to the Reverend Tighe—who was in a position to help him realize a higher goal than teaching, because Reverend Tighe had graduated from St. John's College at Cambridge as an Evangelical minister. Reverend Tighe may have seen in Patrick a potential religious colleague who would promote the values of the Evangelical camp that preached faith in personal commitment, habitual self-examination, a sense of one's own sinfulness, and an awareness of the imminence of the Day of Judgement. The Evangelicals also believed in the need for education and literacy among its congregation, and promoted these notions at Sunday school; by holding cottage meetings; and by producing simple didactic pamphlets that could be read by the general population.

After Patrick Brontë tutored Reverend Tighe's children for three years, he was encouraged to submit an application to St. John's College to study for the clergy. To insure that Patrick could pass the exam, Reverend Tighe taught him Greek and Latin—a requirement for the entrance exam. Reverend Tighe also suggested that Brontë change his name from Brunty to Brontë—a Greek word for thunder—so he would have a better chance at realizing his religious and educational goals. After a letter of recommendation from Reverend Tighe, Patrick Brontë was accepted into St. John's College, at Cambridge in 1802.

An example of Patrick's Asperger syndrome may have been his distancing himself from his parents and siblings—after leaving Ireland in 1802, it appears that he

[7] Barker, Juliet. *The Brontës*. New York and London. Pegasus Books. 2010.

never returned home in his lifetime, and although he was a prolific writer, Patrick had limited correspondence with his Irish family.

While at St. John's College, Patrick Brontë lived an extremely frugal and disciplined life, and spent most of his time focused on studies. In 1803, because of the Napoleonic threat, he was required to do a mandatory one hour per day of military drilling. It was during this mandatory drill that Patrick learned to shoot a gun—a practice that he continued every day throughout the rest of his life. Patrick graduated from St. John's College in 1804 during an extremely radical period in which England was going through industrial, military, political, religious and social changes. Consequently, he remained involved in political and social reform throughout his religious life.

It was under the above conditions in 1806 that a very hardy, independent and single Patrick Brontë was assigned as a cleric to his first congregation—transporting all of his books from college to each parish, including his two favorite books *The Pilgrim's Progress* and the *Bible*. If the parishioners in his congregations had been asked to describe Patrick, they would have said that he was a man of keen intelligence and unusual drive, both clever and good-hearted and known for his "*two-fisted and physical approach to religion*," also had hot-tempered, and was a bit queer in nature. For the next six years Patrick worked in several parishes, i.e. Wethersfield, Drewsbury and Hartsfield.

During that period of time he worked as a clergyman, wrote prose and poetry and focused on mastering his skills as an Evangelical minister. Patrick did have one brief romantic encounter—with a Mary Mildred Davy Burder who was the niece of the woman with whom he lodged (she was twelve years Patrick's junior). The relationship between Ms. Burder and Patrick did not go well, because his financial status was well below Ms. Burder's (20). Patrick's manner of ending his emotional involvement with Ms. Burder may have been another example of his Asperger syndrome. Although he felt that it had been done amicably—with little emotion and common sense, Ms. Burder felt otherwise, and held a grudge that surfaced when they encountered each other later in life.

In 1812 Patrick Brontë met Maria Branwell—the twenty-nine year old niece of his friend John Fennell. Maria was described as a *petite and elegant woman—though not pretty—who was pious and extremely religious,* with *a bright, cheerful and witty disposition*. She was the daughter of a successful property-owning grocer and tea merchant of Penzance, Thomas Branwell—who had died and left the business in the capable hands of his sons,—and a mother, Anne Carne—the daughter of a silversmith in the town, who also died a year after her husband's death. Although not wealthy, Maria

had some means of financial support and *enjoyed the benefits of belonging to a prosperous family in a small town*. She appeared to be close to her seven living siblings, especially Elizabeth Branwell (55).

Penzance had a mild, fresh climate and was a busy trade center—being on the coast. Unfortunately, because of a series of family financial misfortunes, Maria had to move from Penzance to live with her aunt and uncle (John Fennel), to an environment in a depressed and restless industrial area—the climate was polluted with industrial toxins and extremely different from the mild, fresh climate on the coast. Maria earned her keep by assisting in the school that John Fennel had established in his ministry.

The Fennel's daughter (Jane Branwell Fennel) and Maria became close friends, and that is how she met Patrick Brontë—Jane was being courted by his best friend, William Morgan. Patrick courted Maria through a series of visits and letters—which showed Maria was *intelligent and had superlative qualities*. The lively and intimate correspondence and visits between Patrick and Maria Branwell lead to their marrying December 29, 1812. In their first six years of marriage, Patrick and Maria Branwell Brontë had six children, moved three times; with a final move to Haworth in 1820 where Patrick become its curate—a place that the Brontë family called home for the rest of their lives.

Within the first year of moving to Haworth, Maria Branwell Brontë became ill, and in 1821 she died of cancer. Although uterine cancer has been suggested as the cause of death for Maria Branwell, John Ross, MD believes that her youth and the protective effects of childbearing would have protected her against premature endometrial cancer. Dr. Ross posits that stomach cancer, common in that era, is more plausible.

I believe that it was a combination of circumstances that contributed to Maria Branwell Brontë's death. Maria Branwell had six children within six years which may have caused her body to be vulnerable to atmospheric toxins, like mercury—which could have further lowered her immune system to disease. Haworth was an industrial town that may have released mercury into the atmosphere as a byproduct from coal plants and crematories.[8] Whatever contributed to the death of Maria Branwell, her death shifted decisions of care for the six Brontë children from a two-parent family to an extremely busy clergyman who also had to deal with the loss of a wife at age of thirty-eight.

[8] Mercury poisoning—see Appendix I, Pp. 32-34

It is Dr. Ross's belief that "*Maria Brontë's early death compounded the family's oddness and isolation."*

The children at that time were described as: [9]

> "*The eldest, Maria, was mature and precocious, given to reading stacks of newspapers and conversing learnedly about politics with her father at the age of seven. The second eldest, Elizabeth, was gentle and the most ordinary of the Bronte children*. "*Charlotte, like her father, was excitable and hot-tempered. Branwell was impetuous and redheaded. Emily was remembered as having the eyes of a half-tamed creature; she cared for nobody's opinion, only being happy with her animal pets. Anne, the youngest and prettiest, was the most bashful of a reserved and close-knot bunch."*

The death of Maria Branwell Brontë was not only a major blow for her children, but also for Patrick Brontë because she was the one person with whom he had shared intimacy, and who understood his religious passion as a clergyman and his need, at times, for solitude. Maria Branwell may also have helped to socialize Patrick, and the loss of her love and guidance may have caused him to become more and more socially isolated.

After Maria Branwell's death, Patrick Brontë became prostrate with grief and unable to perform his duties. This was his first known bout with depression. Two weeks into this profound depression Patrick realized that he could not afford the indulgence of shutting himself away to mourn Maria Branwell because he had children to take care of and official duties in his Parish to perform. This ability to overcome extreme grief and move forward with his life is an example of Patrick Brontë's ability to use the hardiness he had developed as a youth.

While Patrick Brontë had the ability to overcome his depression through the coping skills he had developed through hardiness, he still had a proclivity towards falling into depression during times of anxiety and stress. This proclivity to depression, along with other genetic predispositions may have been genetically passed on to some of his children.

Maria and Elizabeth Brontë

After Maria Branwell's death, Patrick Brontë realized that his five daughters not only needed a mother (which he failed to give them—but not without trying several

[9] Ross, John. J., M.D. *Shakespeare's Tremor and Orwell's Cough*: The Medical Lives of Great Writers. St. Martin's Press. New York 2012. Chapter 4. *Some Sweet Poisoned Breeze had Passed into her Lungs:* The *Brontës and Tuberculosis.*

times unsuccessfully), but also realized that they needed more skills and training than he could provide for them at home. It was at this time that Patrick decided to seek out an affordable educational program that would prepare them for the challenges of adulthood.

Before sending his four daughters to the Clergy Daughter's School at Cowan Bridge to be educated, Patrick Brontë had thoroughly checked it out, so when Maria and Elizabeth arrived on July 21, 1824, and then Charlotte and Emily on August 10, 1824 he believed that their wellbeing would be in good competent hands. Unfortunately, Maria and Elizabeth were in a delicate state physically because they were recovering from having caught whooping cough and measles in the spring, so their immune systems' resistance to any bacterial strain of *mycobacterium tuberculosis* floating in the air may have been already compromised.

Dr. Ross hypothesizes that, while at the Clergy Daughter's School at Cowan Bridge in the fall of 1824 Maria was exposed to the *mycobacterium tuberculosis* strain that later that summer killed her. Maria may have passed the infectious disease on to her siblings, Elizabeth, Charlotte, Branwell, Emily and Anne while at home for three months laboring with the disease. While Elizabeth died soon after Maria, this strain may have lie dormant for several years until Charlotte, Branwell, Emily and Anne's immune systems were compromised by other factors, and allowed the release of the *mycobacterium tuberculosis* strain into their systems; ultimately contributing to their deaths (Chapter 4).

The Clergy Daughter's School, Tuberculosis (TB) and the Brontë Family

Dr. Ross describes the living conditions at the Clergy Daughter's School at Cowan Bridge in the spring of 1825 as was suffocatingly small—all fifty-three girls slept in a single room above the schoolhouse, two to each tiny bed—and as being a potentially strong breeding ground for quickly spreading disease. As previously stated, when Maria and Elizabeth Brontë arrived at the Clergy Daughter's School they were recovering from whooping cough and measles, so their resistance to any bacterial strain of *mycobacterium tuberculosis* floating in the air.

As the weather grew colder and winter approached, the hardships for the fifty-three girls who lived at Cowan Bridge intensified because of their thin shoes—which often allowed the cold, wet conditions on the ground to transfer to the girls' feet, because the lightweight cloths did not protect them against inclement conditions (Chapter 5).

In November of 1824 Maria began to show the beginning signs of consumption—she had developed a chronic cough. When Maria's respiratory problems persisted the school decided to call in a physician. After a physical examination, the physician made the decision to treat Maria with blistering—in the early nineteenth-century physicians believed that blistering was the best treatment for viral infections. Blisters were produced by applying a poultice of melted wax and lard mixed with cantharides—a powder made from the crushed body of the blister beetle.

Maria Brontë was not alone in becoming ill, because in the spring of 1825 a low-grade fever began to spread throughout the school. The individual who was in charge of the school, *Carus Wilson, was oblivious to the growing emaciation, coughing, and spectral pallor of the girls, because all he cared about was enforcing the strict code of conduct related to their learning and spiritual needs. However he was alarmed when the stuporous girls became "gaunter, duller and more listless than usual*," and *"too dull and heavy to understand remonstrances, or be roused by texts and spiritual exhortation.*

Patrick Brontë was not immediately told of his daughter delicate condition, but after Maria continued to display symptoms of a viral infection for three more months, by February 1825, Maria became gravely ill. When it was determined that Maria would not recover, Patrick Brontë was finally notified of his daughter's condition.

As quickly as possible, he brought Maria back to Haworth, where she died three months later at age eleven. Three weeks after Maria's death the Clergy Daughter's School at Cowan Bridge was shut down. By the time the school was shut down Elizabeth was also desperately ill and sent home, while Charlotte and Emily were kept at Carus Wilson's house in Lancashire Coast. The day after Elizabeth arrived home and he saw how gravely ill she was, Patrick went to Carus Wilson's house in Lancashire coast and brought Charlotte and Emily home. Elizabeth succumbed to the respiratory infection two weeks after she arrived home—she was ten years old (Chapter 4).

Dr. Ross posits that "*given the insidious onset of illness, the prominent cough and weight loss, and the prolonged disease course, the epidemic at Cowan Bridge was almost certainly due to tuberculosis."* Although typhus was blamed for some of the deaths, he believes that was an unlikely possibility, because typhus is spread by body lice, and because there was extreme emphasis on body hygiene at Cowan Bridge, there was no lice problem at the school. He further adds *that typhus is a fulminant disease, with raging fever, headache, muscle aches, a diffuse, sometimes bloody rash, and delirium; the patient dies or recovers within two weeks, and in this preantibiotic era, the usual duration of typhoid fever was about four weeks. Maria Bronte's more chronic*

course of illness over several months is not consistent with either typhus or typhoid, but would be typical of tuberculosis.

Of the fifty-three students at the school, one died there, and eleven others left the school in poor health. Six of these girls died shortly after leaving, including Maria and Elizabeth Brontë*. Many of the other children, including young Charlotte and Emily, were permanently removed thereafter by their appropriately panicked parents.*

If Maria Brontë died of TB, as seems likely, one of the major effects of her illness was to expose all of the remaining Brontë siblings to this highly contagious and virulent infection that may linger in the body for decades, silently awaiting its opportunity to be released and compromise the immune system. Elizabeth may have died after a much shorter period, because her immune system was already compromised before she went to Cowan Bridge—from the whooping cough and measles.

The loss of Maria and Elizabeth was devastating to the younger Brontës. Maria, in particular had been a mother figure to the rest of her siblings—who barely remembered their real mother. Back in the protective cocoon of family and parsonage, Charlotte, Branwell, Emily, and Anne withdrew into a lush fantasy world of their own making, one from which none of them would ever fully emerge.

Branwell Brontë

If eight year old Branwell Brontë was infected with the *mycobacterium tuberculosis* strain that killed Maria and Elizabeth in 1825, why didn't he also die from being exposed to the disease at that time? What factors compromised his immune system enough to release the TB strain and kill him September 24, 1848—twenty-three years after he was infected?

Dr. Ross hypothesizes that Branwell Brontë, "*quite possibly the most creative and talented of the Brontë children,* had a dark side. *No matter what he tried to accomplish as a writer, painter, tutor or railroad clerk, Branwell failed because he erratically shifted between extremely high exalted moods and black depressions,…which at times caused him to be blithe and gay, but at other times to be downcast and sad.*

Given the dramatic shifts in Branwell Brontë's moods, Dr. Ross suggests that he had a Bipolar Mood Disorder. I agree with Dr. Ross's assessment of Branwell having bipolar mood disorder, but also believe that he also had a Depressive Mood Disorder[10]; Personality Disorders[11] and Epilepsy. [12] Sometime during Branwell's childhood or early

[10] Mood Disorders—see Appendix J, Pp. 35-38
[11] Personality Disorders—see Appendix K, Pp. 40, 42-43

adulthood, he must have suffered from a brain fever and developed epilepsy. The combination of mood and personality disorders and epilepsy would have clearly caused dramatic shifts in Branwell's behavior throughout life. These shifts in behavior could have eventually compromised his immune system enough to release the *mycobacterium tuberculosis* strain that had been in his system since age eight and cause death.

In order to prove the above hypothesis—that a combination of genetic anomalies contributed to Branwell Brontë's behavior and eventual death, I will need to associate these genetic disorders with Branwell's behavior.

Branwell's Mood and Personality Disorders

Anxiety is the key feature of Generalized Anxiety Disorder. Stress can produce the lingering reactions seen in this psychophysiological disorder. The younger a child is exposed to environmental trauma the higher the risk of his developing this disorder. It can also be inherited.

Depression and mania are the key emotions in Mood Disorders. Symptoms of depression can range from despair, anger and worthlessness, and may be brought on by problems in an individual's personal, social and professional lives. Mania—attributed to bipolar disorder—brings on dramatic high's in which an individual feels he or she is not bound by normal rules of societal conduct.

Personality Disorders are inflexible patterns of inner experience and outward behavior. For example, Borderline Personality Disorder is caused by an unstable self-image, and impulsivity. The borderline personality can swing in and out of very depressive, anxious and irritable states that last anywhere from a few hours to a few days. The Histrionic Personality is an extremely emotionally charged individual who continuously seeks to be the center of attention. He is often vain; self-centered; demanding and unable to delay gratification for long; and often overacts to any minor event that gets in the way of his quest for attention. An individual with a Narcissistic Personality Disorder is usually grandiose; needs much admiration; feels little or no empathy for others; and is often convinced of his own great success, power, or beauty, and expects constant attention and admiration from those around him. An individual with this disorder will often take advantage of others to achieve his own goals. If these goals are not achieved he can fall into bouts of pessimism and depression.

In 1829 after the deaths of Maria Branwell Brontë in 1821, and Elizabeth and Maria Brontë in 1825, Charlotte and Branwell created the imaginary worlds of

[12] Epilepsy—see Appendix G P. 30 and Brain abnormalities and inheritance—see Appendix E, P. 28

Glasstown, and later *Angria*—which they shared with Emily and Anne Brontë because they were too young to create their own fantasy worlds. Branwell's style of writing was grandiose and influenced, not only by religious and political print media, but also by eighteenth and nineteenth century Gothic fiction based upon the "Goths,"—Germanic tribes instrumental in the fall of the Roman Empire. By the age of eighteen, Branwell began to emulate the behaviors of his fictional characters, like Sdeath and other atheistic and unsavory individuals. He began drinking alcohol and experimenting with drugs and showed signs of erratic behavior and emotional instability.[13] And although Branwell's participation in the Glasstown and Angria Tales lasted only eight years, he repeatedly escaped back into the behaviors of these fictional characters as an adult; especially during times of anxiety and stress.[14]

In Hysteria: The History of a Disease,[15] Ilza Veith points out that nineteenth century medical professionals associated causes for diseases of the mind and body with personality traits and exposure to certain activities (190).

Each time Branwell lost a job, failed at an activity—like his art—or in a relationship, his brain chemistry took over and displayed erratic emotional behavior. As previously stated, anxieties and stressors can trigger depression and mania—which can appear as hysteria and hypochrondriasis—and the use of drugs and alcohol can further influence brain chemistry and effect emotional behavior.

The final blow to Branwell's ego was the failed relationship with Mrs. Robinson. Because of Branwell's mood and personality disorders, I posit that after this event, he began to fall deeper and deeper into a delusionary state of *magical thinking* in which he believed Mrs. Robinson would marry him; support his literary endeavors and provide the extravagant lifestyle he envisioned; and together they would live happily ever after.

By January 1848 it was obvious that Branwell subconsciously contemplated suicide—*Confirming the morbidity of his mood, Branwell drew a self-portrait above a sketch in which he depicted himself naked with a noose around his neck* in the guise of 'Patrick Reid, the notorious Mirfield murderer who was hanged at York on 9 January 1848[16] (642).

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[13] Barker, Juliet. *The Brontës*. New York and London. Pegasus Books. 2010. Selected sections of the book relating to Branwell Brontë until he dies in 1848.

[14] Alexander, Christine, ed. *The Brontës. Tales of Glass Town, Angria, and Gondal*. Selected Writings. Oxford University Press. Oxford. 2010

[15] Veith, Ilza. *Hysteria, The History of a Disease*. London. University of Chicago Press, Ltd. 1965

[16] Barker, Juliet. *The Brontës*. New York and London. Pegasus Books. 2010. Selected sections of the book relating to Branwell Brontë until he dies in 1848.

As Branwell progressively declined—through drugs and alcohol consumption—he continued to have 'fainting fits.' It was believed that they were signs of delirium tremens, but they might have been a combination of epileptic fits and delirium tremens.

Branwell's Epileptic Seizure

There is no way of establishing when Branwell Brontë developed epilepsy—it could have been through a virus; brain fever; alcohol; or maybe he was even born with it, but sometime before or maybe even after his relationship ended with Mrs. Robinson he developed epilepsy.

The night that Branwell received the message from Mrs. Robinson—through her coachman, William Allison—announcing the end of their relationship, it is strongly possible he suffered an epileptic fit. Below is a description of Branwell's reaction to the news.

> *"Nothing was seen or heard of Branwell until about an hour later when a noise 'like the bleating of a calf' was heard; when the curious came to investigate they found Branwell lying in a 'kind of fit,' literally prostrated by the unexpected blow to his pride and prospects…The next day he had recovered…* (584)

After the above episode—which may have been a grand mal seizure—Branwell further declined by succumbing to the use of drugs and alcohol. After eight months, his immune system's resistance to disease may have been compromised enough to allow the *mycobacterium tuberculosis strain* from Maria to surface and cause the final blow to a severely damaged immune system.

Branwell's life may have been doomed from his birth because of the genetic disorders he appeared to inherit from Patrick or the Brunty clan and the development of epilepsy from a brain fever. It is unfortunate that such a talented and gifted individual was burdened with so many mind and body problems, because he may have lived a long productive life writing brilliant poetry and prose.

Emily Brontë

Dr. John J. Ross believes that Emily Brontë had Asperger syndrome[17] because she displayed the three diagnostic criterions: *(1) Impairment in social interaction by being Inflexible and logical to a fault; (2) restricted, repetitive patterns of behavior, interests, and activities;* and *(3) clinically significant impairment in social, occupational, and other functions relating to public settings.* He further adds that Emily was tomboyish; socially

[17] Asperger Syndrome—see Appendix C, P. 26

aloof; and was unable to emotionally connect. To support his diagnosis, Dr. Ross cites Dr. Simon Baron-Cohen's suggestion that Asperger syndrome results from *an extreme male brain, which is strong on logic and organization, and weak on emotion and empathy.* Individuals like Elizabeth Gaskell and Monsieur Heger both described Emily as aggressive in nature, like a man. [18]

Dr. Michael Fitzgerald describes the Asperger personality as having several traits favorable to successful writing. *These individuals have narrow interests and pursue these interest with workaholic zeal; excellent memory retention for detail; a unique perspective and lack of interest in the opinions of others that lead them into original subject matter and a means of expression; superior verbal skills; and use their artistic creations as a therapeutic means of overcoming failures to express themselves in more conventional ways. Creativity in writers with Asperger syndrome may be limited by other factors relating to that creativity; such as genes predisposing to mood disorders*.

To support Emily's inability to relate emotionally, Dr. Ross compares Charlotte's writing of Jane Eyre[19] and Emily's writing of Wuthering Heights. [20] In Jane Eyre, love is an emotion that is intimately experienced and long repressed, but ultimately fulfilled; but in Wuthering Heights, passion is seen only from the outside; we are doubly distanced emotionally from Heathcliff and Cathy by Emily's ingenious use of two narrators, the obtuse Lockwood and the earthly Nelly Dean. [21]

The difference between Jane Eyre and Wuthering Heights is that emotions are intimately experienced and long repressed, but ultimately fulfilled in Jane Eyre, but in Wuthering Heights, passion is seen only from the outside—the reader is emotionally distanced from Heathcliff and Cathy by Emily's ingenious use of two narrators, the obtuse Lockwood and the earthly Nelly Dean.

To further underscore Emily's Asperger syndrome and to support the notion that she had a more masculine and aggressive temperament, Dr. Ross gives an example of

[18] Ross, John. J., M.D. *Shakespeare's Tremor and Orwell's Cough*: The Medical Lives of Great Writers. St. Martin's Press. New York 2012. Chapter 4. *Some Sweet Poisoned Breeze had Passed into her Lungs:* The *Brontës and Tuberculosis.*

[19] Brontë, Charlotte. *Jayne Eyre*. W.W. Norton & Company. New York, London. Richard J. Dunn, ed. 2001.

[20] Brontë, Emily. *Wuthering Heights*. W.W. Norton & Company. New York, London. Richard J. Dunn, Ed. 2003

[21] Ross, John. J., M.D. *Shakespeare's Tremor and Orwell's Cough*: The Medical Lives of Great Writers. St. Martin's Press. New York 2012. Chapter 4. *Some Sweet Poisoned Breeze had Passed into her Lungs:* The *Brontës and Tuberculosis.*

Emily severely beating her dog as a disciplinary action, and then immediately turning around and showing an abundance of love. He points out that people with Asperger syndrome have trouble grasping and processing of how a display of emotions will impact others.

Two final examples of Emily displaying symptoms of Asperger syndrome related to her wondering on the moors for several hours at a time—an indication that she was physically hyperactive. Both hyperactivity and preferring to spend long periods of time alone rather than in the company of others are symptoms of Asperger syndrome. People with Asperger syndrome also have an unusually high tolerance to pain, an example of which is Emily's cauterizing her own arm with a red-hot iron to prevent rabies after a bite from a stray dog.

I support Dr. Ross's diagnoses of Emily Brontë having Asperger syndrome, but add that she also suffered from an Obsessive-Compulsive Personality Disorder[22]—a preoccupation with order, perfection and control in which people set unreasonably high standards for themselves and others; a rigidity and stubbornness to outside guidance and control; and problems with expressing affection. I also believe, like Catherine Franks, A Chainless Soul, A life of Emily Brontë,[23] that Emily also suffered from Depressive Mood Disorder[24] and Anorexia Nervosa.[25]

In 1826, when the Brontë children began to "*weave their imaginary worlds,*" Emily's participation was minimal because she was only eight years old. But in listening to Charlotte and Branwell' dramatic tales, "*the seeds of creating an ideal world in which Emily was in control were planted"* (57-58). [26]

The Gondal poems began December 13, 1836, when Emily was eighteen years old, and ended on May 13, 1848, seven months before she died at age thirty. For Emily Brontë the Gondal poetry and prose replicated a world closer to home, i.e., it was controlled by an extremely strong woman—the Queen of Gondal, who was a *"passionate dark beauty, ruthless in both political and personal relationships, and a female alternative to the Byronic heroes of Glass Town and Angria*. This imaginative character was patterned after Emily's perception of the young princess Victoria—a year younger than Emily—and her imaginary self (xxxvii).

[22] Obsessive-Compulsive Personality Disorder—see Appendix K, P. 40
[23] Frank, Catherine. *A Chainless Soul, A life of Emily Brontë*. Boston. Houghton Mifflin Company. 1990

[24] Depressive Mood Disorders—see Appendix J, Pp. 35-36
[25] Anorexia Nervosa—see Appendix A, P. 23
[26] Alexander, Christine, ed. *The Brontës. Tales of Glass Town, Angria, and Gondal*. Selected Writings. Oxford University Press. Oxford. 2010

The passion shown in the Gondal poems are for the most part related to death, nature and religion and may appear to many scholars a bit removed from real-life social interactions, but there is a depth of emotions in these poems that cannot be measured by normal standards.

In the Preface to A Chainless Soul, A life of Emily Brontë,[27] Catherine Frank states that the perception of Emily Brontë that Elizabeth Gaskell presented in her biography of Charlotte Brontë, as '*the sphinx of English literature'* is quickly being *"demythologized*"(1). Many Emily Brontë scholars, like Catherine Frank, believe that there was a medical explanation for Emily's "*troubled*," "*solitary*" and "*austere*" life. Ms. Franks speculates that Emily's strong "*inflexible" "will*" and the display of *"immense courage,"* was because she had developed these traits as coping mechanisms for emotional and psychological problems caused by a depressive mood disorder and anorexia nervosa (2)

Ms. Frank states that Emily Brontë's depressive mood disorder and anorexia nervosa resulted from an emotional and psychological need for control over her life, and the only successful method she found in maintaining that control was through the use of *hunger* and *starvation.* Periodically restricting food appeared to place Emily in a type of ethereal state that gave her the courage to challenge individuals trying to usurp the control over her life that Emily so desperately needed (3).

It was life's experiences that molded Emily Brontë's personality, but her temperament and genetic structure were qualities with which she was born. These two aspects of her life combined to determine how she lived and eventually died. Outwardly Emily' life may have appeared a bit chaotic because her inhibited space, especially the kitchen at Haworth, did not seem organized. Pots and pans were scattered around in the kitchen; German and French language books lay open near the cutting board where Emily was preparing meals so that she could study; and meat for meals, along with other foods on the counters, were not wrapped up but open for ready use.

What others could not possibly comprehend was that these outward perceptions of disorganization were misleading. Emily's emotional, mental and physical lives were organized according to her natural instincts. Her outward daily mundane tasks of housework and cooking were organized in such a manner that made these tasks expedient and easy to complete so she could have afternoon walks on the moor before sitting down to her writing table to begin the internal, mental task of writing the Gondal

[27] Frank, Catherine. *A Chainless Soul, A life of Emily Brontë*. Boston. Houghton Mifflin Company. 1990

stories. This dichotomous manner in which Emily governed her life helped maintain the complete control she needed to remain sane.

After establishing a comfortable routine and mechanistic lifestyle at Haworth in which she combined exercise and outdoor activities with household chores, Emily Brontë appeared to be an exceptionally strong and independent person who should have lived to a ripe old age. Unfortunately, that was not the case.

A life of starvation to control her external world left Emily Brontë vulnerable to exposure of disease. Emily may have appeared emotionally removed to many outside her family, but she had a tremendous attachment and loyalty towards Patrick, Charlotte, Branwell and Anne. In the final stages of Branwell's physical decline, it was Emily who stood by him and rendered healthcare. This constant exposure to the *mycobacterium tuberculosis strain* that was being released in Branwell's body and exposure to the inclement elements of cold and rain at Branwell's funeral might have been the final blows to Emily's immune system that released her own *mycobacterium tuberculosis strain*. When the illness occurred, like Branwell—who escaped into his Glasstown and Angria Tales during times of stress or physical ailments—Emily too chose to escape into the ethereal world of Gondal where she had control. This escape was a tug of war between Emily's mind and body, and unfortunately, the disease overpowered both and ultimately killed her.

Dr. Ross points out that at the time of Emily's death, she *looked hollow and wasted, and had a pallid aspect; there was pain in the chest and side, a deep tight cough, and a rapid pant with minimal exertion. She also had a pulse of 115 beats per minute. The pulse suggests anemia, common in chronic infections, as well as the failure of her lungs to load her bloodstream with oxygen. Chest pain is common in TB—it can sometimes point to a plural effusion, or accumulation of fluid between the lung and the chest wall, which would further increase her shortness of breath. Emily's emaciated body finally developed diarrhea, an ominous complaint that probably indicated the spread of TB to the bowel, causing malabsorption and more wasting away. She was described as stoic and in denial throughout her illness.* [28]

All of the above examples provide supportive evidence that Emily Brontë suffered from Asperger syndrome; obsessive-compulsive personality disorder; depressive mood disorder and anorexia nervosa—sympathetic disorders that would

[28] Ross, John. J., M.D. *Shakespeare's Tremor and Orwell's Cough*: The Medical Lives of Great Writers. St. Martin's Press. New York 2012. Chapter 4. *Some Sweet Poisoned Breeze had Passed into her Lungs:* The *Brontës and Tuberculosis.*

have worked hand in hand over a period of years to compromise Emily's immune system and cause the release of the *mycobacterium tuberculosis strain* that strongly contributed to her death.

In nineteenth-century Victorian England Emily Brontë may have been considered an anomaly because of her masculine qualities and independent nature; and preference for social isolation, but at that time, there was no one to help Emily understand that her genetic anomalies influenced her behavior. But it is my belief that Emily's "*wonderful lightness of being*"[29] molded a nature that understood that she only had one life to live on this earth and that it had to be on her own terms. Those terms were to write poetry and prose that drew the reader into creatively magical and spiritual worlds that were filled with strong women who ultimately obtained goals of freedom and independence.

Anne Brontë

It has been well established that Anne Brontë suffered from asthma from early childhood, and that Dr. Ross speculates that condition, along with the *mycobacterium tuberculosis strain* Maria Brontë passed on to her siblings in childhood, may have contributed to lowering Anne's immune system and causing her death. I agree with that prognosis, but also add that other contributing factors—like Anxiety and Stress Disorders—may have influenced the decline of Anne's immune. *Anxiety is the key feature of disorders such as generalized anxiety disorder, phobias, panic disorder, and obsessive-compulsive disorder. Stress can produce the lingering reactions seen in acute stress disorder, posttraumatic stress disorder, and psychophysiological disorders.*[30]

Anne Brontë was born into an extremely religious, literate, creative and loving family. [31] Patrick Brontë was a firm believer in prayers first, then education, and last chores (44). The death of Maria Branwell Brontë on September 15, 1821—"a year and five months after Anne's birth" (12)—resulted in Miss Elizabeth Branwell (Maria's sister) moving into Haworth permanently, and taking over the care of her nieces and nephew. This guaranteed that a major portion of Ann's childhood would be spent under the guidance of Aunt Branwell's strong Wesleyan/Arminian Methodist religious beliefs. These religious teachings shaped Anne's moral, ethical, and religious values; sin, death, salvation and resurrection permeated her poetry and prose (33).

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[29] http://en.wikipedia.org/wiki/The_Unbearable_Lightness_of_Being —see Appendix M, P. 46

[30] Anxiety and Stress Disorders—see Appendix B, Pp. 24-265

[31] Gérin, Winifred E. *Anne Bronte*. Thomas Nelson and Sons Ltd., London. 1959

Because of her dilemma about her earthly financial responsibilities towards her family and religious obligations to God, Anne Brontë was an individual who lived two separate, but equally important creative existences—one in her mind (imagination) and the other in her body (reality). Anne's Gondal poems and prose, and art and music were used as coping mechanisms to face the realities of a life that dealt with religious dogma; medical problems; anxiety related to the deaths of family and friends, and doubts and fears about her relationship to God.

It was from nature and the creative associations with her siblings that Anne Brontë's poetry, prose, music, and art thrived. She drew upon familial relationships for her inspiration, and because of Anne's proclivity to choose real-life individuals for her fictional characters in her poetry and prose, her personal anxieties and stresses about emotional relationships are revealed to the reader. For example Branwell Brontë appears to be the prototype for the alcohol and drug addicted Arthur Huntingdon in the Tenant of Wildfell Hall [32] and Mr. Weston the mirror image of Willy Weightman, the consummate religious cleric, in Agnes Grey,[33]

It is clear that Anne Brontë felt incredible angst towards the deaths of Willy Weightman and Branwell Brontë, and this angst—with which she privately dealt—may have caused emotional anxieties and stressors that affected her immune system. Suppressing these emotions must have taken a toll upon both Anne's frail body and mind.

Anne's contributing to the care of both Branwell and Emily while they were ill would also have exposed her to their respiratory illnesses and the *mycobacterium tuberculosis strain* that was being released in their bodies. If you add up all of the emotional anxieties and stresses that weighed heavily upon Anne Brontë's mind and body from early childhood to her adult years, than it is plausible that over time, like with Branwell and Emily, her frail immune system was compromised enough to release the *mycobacterium tuberculosis strain* that had been dormant for so long in her body. [34]

It is my belief that Anne Brontë's asthma, generalized anxiety and stress disorders, and environmental circumstances—contracting the *mycobacterium tuberculosis strain* that Maria have given to siblings in their youths—contributed to a

[32] Brontë, Anne. *The Tenant of Wildfell Hall*. Broadview Edition. New South Books New Zealand. Lee Talley (Ed.) 2009

[33] Brontë, Anne. *Agnes Grey*. Oxford University Press. Oxford. 2010

[34] Ross, John. J., M.D. *Shakespeare's Tremor and Orwell's Cough*: The Medical Lives of Great Writers. St. Martin's Press. New York 2012. Chapter 4. *Some Sweet Poisoned Breeze had Passed into her Lungs:* The *Brontës and Tuberculosis.*

general weakening of Anne's immune system over the years and left her vulnerable to die from tuberculosis.

Although Anne Brontë may have lived a life burdened with death and health issues, she also had an amazing ability to feel hope, love, joy, beauty and forgiveness, which is why the last few hours before her death were decidedly different from Branwell and Emily's deaths. Anne Brontë truly believed in God and heaven, and felt that, after life, she was going on to a greater good, so she *died peacefully in May of 1849."*

Charlotte Brontë

When taking into account the possibility, according to Dr. Ross, that Charlotte Brontë may have died after a latent mycobacterium tuberculosis strain inhabiting her system for thirty years that was released because of a consumptive body, it is important to consider what factors caused the severe weakening of Charlotte's immune system.

Charlotte Brontë did not appear to be able to control the Anxiety, Stress, Depressive Mood Disorder[35] and Hypochrondriasis she experienced over the realities of short-sightedness; a small body frame that caused her to develop low self-esteem; and the financial poverty that forced her to become a governess and teacher (two professions she abhorred). These circumstances not only caused Charlotte to obsessively stress over the incongruities of her body—which may have been an indication that she also suffered from a Body Dysmorphic Disorder[36]—but also to use Anorexia Nervosa[37] —as a coping mechanism not only try and change her body image, but to also maintain control over her life.

Throughout the nineteenth century physicians prescribed laudanum compounds and patent medicines for "female troubles" like dysmenorrhea and other gynecological disorders, "nervousness," and fashionable "melancholy" (depression). Mercury, which often caused mercury poisoning (hydrargyria), was also prescribed by physicians for many ailments. Mercury poisoning in children and adults was also caused by contaminated air, food, medicine, waste disposal, coal plants and other manufacturing resources.

The above physical and mental factors, along with mercury poisoning and other drugs prescribed for health problems, could have contributed to the decline of

[35] Depressive Mood Disorders—see Appendix J, Pp. 35-36
[36] Body Dysmorphic Disorder—see Appendix D, P. 27
[37] Anorexia Nervosa—see Appendix A, P. 23

Charlotte Brontë's health. But even with all of the aforementioned conditions plaguing Charlotte Brontë throughout her life, what may have ultimately sent Charlotte into major a depression and caused a severe decline in her immune system, was the loss of her three siblings within a period of nine months.

The following is from a letter she wrote to William Smith Williams after the deaths of her siblings:

> *A year ago—had a prophet warned me how I should stand in June 1849—how stripped and bereaved-had he foretold the autumn—the winter, the spring of sickness and suffering to be gone through—I should have thought—this can never be endured. It is over. Branwell—Emily—Anne are gone like dreams—gone as Maria and Elizabeth were twenty years ago. One by one I have watched them fall asleep on my arm—closed their glazed eyes—I have seen them buried one by one—and—thus far—God has upheld me from my heart I thank Him*[38] (705).

Although Charlotte Brontë became a successful novelist and "the bell of society," with all of her siblings gone, she had no one to share her successes with except Patrick Brontë. After Anne's death, Charlotte became an insomniac, and because of a lack of sleep, over time she became more and more susceptible to respiratory infections that periodically caused fevers, headaches, coughs and a poor appetite.

As stated in my Villette paper, at this low point in her life, Charlotte began to believe that she would never marry and felt quite alone. Her decision to marry Arthur Nicholls in her late thirties may have been based upon anxieties related to fears that she would spend the rest of her life alone once Patrick Brontë had died.

The decision to marry Arthur Nicholls turned out to be a detrimental one, because Charlotte Brontë's body had not fully recovered from the illness she had developed after Anne's death. During their honeymoon, she further declined physically because of all of the constant travel to visit Mr. Nicholls' family throughout Ireland.[39] After Charlotte became pregnant, she developed a condition known as *hyperemesis gravidarum*, and experienced severe nausea and vomiting, and frequent fever. The prolonged malnutrition from the incessant vomiting might have lowered Charlotte's immune system enough to allow the *mycobacterium tuberculosis bacilli* to surface. Dr. Ross believes that she may also have had Addison's disease—failure of the adrenal

[38] Barker, Juliet. *The Brontës*. New York and London. Pegasus Books. 2010.

[39] Ross, John. J., M.D. *Shakespeare's Tremor and Orwell's Cough*: The Medical Lives of Great Writers. St. Martin's Press. New York 2012. Chapter 4. *Some Sweet Poisoned Breeze had Passed into her Lungs:* The *Brontës and Tuberculosis.*

glands. The symptoms of severe nausea and vomiting, weight loss, weakness, low blood pressure, and electrolyte disturbances finally caused a total shutdown of Charlotte's body and death.

It is my belief that Charlotte Brontë would have lived a different life had she not assumed the role of an adult parent at the age of nine years old. If she had been raised by a loving mother who had reinforced a positive body image, then Charlotte might not have felt the anxiety and stress related to body dysmorphia disorder, nor would she have fallen into depression, anorexia and hypochrondriasis. Charlotte might not have been as affected by the relationship with Monsieur Heger, and might have recognized the merits within Arthur Nicholls at a much younger age when she would have been physically able to carry, and birth, a healthy child after nine months.

Unfortunately, the above speculation about a better life for Charlotte Brontë was not the case. The ultimate cause of death was given as tuberculosis, but I believe that it was a combination of the *mycobacterium tuberculosis bacilli* strain from Maria, the mercury poisoning and other drugs lingering in her system, and the combination of a depressive mood disorder, anorexia nervosa, body dysmorphia and a subconscious will to die and be joined with her siblings, that ultimately affected Charlotte's immune system at age thirty-nine and cause her death.

Conclusion

Whether it was the *mycobacterium tuberculosis* strain that Maria Brontë contracted while at the Clergy Daughter's School at Cowan Bridge and passed on to Elizabeth, Charlotte, Branwell, Emily and Anne Brontë or other underlying genetic anomalies in the Brontë family, it is clear that proximity also played a major role in the deaths of Maria Branwell Brontë and her six children.

If we can step back a moment and consider the decisions Patrick Brontë made related to proximity, then an argument could be made that had Patrick and Maria Branwell Brontë and their six children been housed in a different environment they might have lived long and healthy lives.

Patrick Brontë's placement as curate at Haworth caused an extremely difficult situation from the very beginning of his curacy, because the move to Haworth isolated the Brontë family from the friendly environment in which they had previously lived. Haworth's industrial pollutants and unsanitary conditions may have contributed to further weakening Maria Branwell Brontë's immune system after the birth of her sixth daughter, Anne.

Maria Branwell Brontë's death from cancer caused Patrick to make the flawed and tragic decision of sending his four daughters to the Clergy Daughter's School at Cowan Bridge. The deaths of Maria Branwell, Maria and Elizabeth Brontë forced Charlotte into the adult role of a parent at age nine, and brought Aunt Elizabeth Branwell in close proximity with Anne—an association that not only affected Anne's ethical, moral and religious outlook throughout life, but quite possibly her health.

Patrick Brontë died 7 June 1861—six years after Charlotte Brontë Nicholls died. As previously stated, I agree with Dr. John J. Ross that Patrick had Asperger syndrome and a Depressive Mood Disorder, and also add my belief that he had an Obsessive-Compulsive Personality Disorder. Patrick's obsessiveness of wrapping a large scarf around his neck whenever venturing out of doors, may actually have given him many additional years of life, because it protected an extremely vulnerable part of his body. The Asperger syndrome also may have contributed to Patrick's health because it limited his social interaction and restricted contact with individuals who may have been carrying harmful germs—especially in the spring when Patrick tended to get bronchitis. His mechanistic routine of shooting a gun every morning was a regimen that caused Patrick to rise out of bed and perform a daily task that started out his day.

Although the obsessive-compulsive personality disorder gave Patrick Brontë the stamina and discipline to do the above repetitive tasks, and may have helped him the hardiness continue those daily tasks throughout life, it does not appear that his children took advantage of the positive effects of the genetic traits and hardiness that Patrick may have passed on to them.

It is unfortunate that environmental exposure to toxins and the *mycobacterium tuberculosis* strain may have contributed to the premature deaths of Maria Branwell, and Maria and Elizabeth Brontë, but the effects from these tragedies of their deaths gave the four creative Genii—Charlotte-Tallii, Branwell-Brannii; Emily-Emmii and Anne-Annii, the imagination to write incredibly profound poetry and prose that will be read for generations to come.

Appendix A – Anorexia Nervosa (342-343)

Individuals with anorexia nervosa refuse to maintain more than 85 percent of their normal body weight and intensely fear becoming overweight, because they have a distorted view of their shape. People with anorexia nervosa reduce their weight by restricting their intake of food, a pattern called restricting-type anorexia nervosa. Women stop menstruating.

Approximately 90 to 95 percent of all cases of anorexia nervosa occur in females. Although the disorder can appear at any age, the peak age onset is between 14 and 18 years old. The escalation toward anorexia nervosa may follow a stressful event such as a separation of parents, death of a parent, a move away from home, or an experience of personal failure.

People with anorexia nervosa also think in distorted ways. They usually have a low opinion of their body shape, for example, and consider themselves unattractive. The distorted thinking of anorexia nervosa also takes the form of certain maladaptive attitudes and misperceptions. Sufferers tend to hold such beliefs as "I" must be perfect in every way," and "I can avoid guilt by not eating."

Individuals with anorexia nervosa also display certain psychological problems, such as depression and anxiety and low self-esteem. Many display obsessive-compulsive patterns of behavior.

The starvation habits of anorexia nervosa cause medical problems. Women develop amenorrhea, the absence of menstrual cycles. Other problems include lowered body temperature, low blood pressure, body swelling, reduced bone mineral density, and slow heart rate. Metabolic and electrolyte imbalances also may occur and can lead to death by heart failure or circulatory collapse.

Appendix B - Anxiety and Stress Disorders[40]

Anxiety is the key feature of disorders such as generalized anxiety disorder, phobias, panic disorder, and obsessive-compulsive disorder. Stress can produce the lingering reactions seen in acute stress disorder, posttraumatic stress disorder, and psychophysiological disorders.

Epidemiologic studies of general population samples have reported several factors that may influence acquiring acute and severe stress (combat stress and posttraumatic stress disorder): (1) a diagnoses of other psychiatric disorders, like depression, anxiety disorders, and substance abuse disorders; (2) noncausal associations like shared genetic or environmental factors; (3) age—the younger the exposure to trauma the higher the risk of getting PTSD; (4) and education—the more educated an individual the lower the risk of developing stress disorders (Breslau & Davis, 1987; Breslau, Davis, Andreski,1995; McNally, 2005). Emotional reactions to environmental stressors that cause psychological traumas like acute, severe, combat, and posttraumatic stress are unique to each individual, and determining appropriate coping mechanisms to minimize and prevent reactions to these environmental stressors is a difficult task (Shay, 2002) (Abstract).

Post-Traumatic Stress Disorder (PTSD) is "The persistence of past traumatic experience in the present physiology, psychology, and social relatedness of the survivor" (Shay, 2002). PTSD can take on two forms: Simple PTSD usually follows a single event, while Complex PTSD can occur after repeated traumas. If gone untreated, PTSD does have the ability to affect the ability to function in society. PTSD was officially recognized as a mental disorder in 1987 by The Diagnostic and Statistical Manual of Mental Disorders (DSM) (DSM-III-R, 1987, revised 2006) (Abstract).

[40] Peche, Paula D. Toolkit for PTSD Proposal. Draft of an Abstract and Research Proposal for Combat Stress Disorders. 2008 (not submitted).

Environnemental Stress Scale

TABLE II.1
The Social Readjustment Rating Scale

Life Event	*Mean Value*
1. Death of spouse	100
2. Divorce	73
3. Marital separation from mate	65
4. Detention in jail or other institution	63
5. Death of a close family member	63
6. Major personal injury or illness	53
7. Marriage	50
8. Being fired at work	47
9. Marital reconciliation with mate	45
10. Retirement from work	45
11. Major change in the health or behavior of a family member	44
12. Pregnancy	40
13. Sexual difficulties	39
14. Gaining a new family member (e.g., through birth, adoption, oldster moving in, etc.)	39
15. Major business readjustment (e.g., merger, reorganization, bankruptcy, etc.)	39
16. Major change in financial state (e.g., a lot worse off or a lot better off than usual)	38
17. Death of a close friend	37
18. Changing to a different line of work	36
19. Major change in the number of arguments with spouse (e.g., either a lot more or a lot less than usual regarding child-rearing, personal habits, etc.)	35
20. Taking out a mortgage or loan for a major purchase (e.g., for a home, business, etc.)	31
21. Foreclosure on a mortgage or loan	30
22. Major change in responsibilities at work (e.g., promotion, demotion, lateral transfer)	29
23. Son or daughter leaving home (e.g., marriage, attending college, etc.)	29
24. Trouble with in-laws	29
25. Outstanding personal achievement	28
26. Wife beginning or ceasing work outside the home	26
27. Beginning or ceasing formal schooling	26
28. Major change in living conditions (e.g., building a new home, remodeling, deterioration of home or neighborhood)	25
29. Revision of personal habits (dress, manners, associations, etc.)	24

Life Event	*Mean Value*
30. Trouble with the boss	23
31. Major change in working hours or conditions	20
32. Change in residence	20
33. Changing to a new school	20
34. Major change in usual type and/or amount of recreation	19
35. Major change in church activities (e.g., a lot more or a lot less than usual)	19
36. Major change in social activities (e.g., clubs, dancing, movies, visiting, etc.)	18
37. Taking out a mortgage or loan for a lesser purchase (e.g., for a car, TV, freezer, etc.)	17
38. Major change in sleeping habits (a lot more or a lot less sleep, or change in part of day when asleep)	16
39. Major change in number of family get-togethers (e.g., a lot more or a lot less than usual)	15
40. Major change in eating habits (a lot more or a lot less food intake, or very different meal hours or surroundings)	15
41. Vacation	13
42. Christmas	12
43. Minor violations of the law (e.g., traffic tickets, jaywalking, disturbing the peace, etc.)	11

Source: T. H. Holmes and R. H. Rahe, "The Social Readjustment Rating Scale," *Journal of Psychosomatic Research* (1967), 11:213–18. Used with permission of Pergamon Press.

derived from manifestations of love, relief at hearing good news, the pleasure of a good night's rest, and so on" (see Lazarus and Folkman 1989, and the Children's Hassles and Uplifts Scales at the end of Kanner et al. 1987).

The 1987 article by Kanner and colleagues is of interest for several reasons. First, it not only examines the impact of daily hassles but also of uplifts. There has been a tendency to ignore uplifts in the literature and Kanner et al. attempt to remedy this omission. Second, only a few studies of daily hassles and uplifts have included children or adolescents. Thus, much of our information in this arena is based on studies of adults. Kanner et al. provide an excellent description of the hassles and uplifts characterizing a group of Bay Area adolescents. Third, they investigate gender differences with regard to hassles and uplifts. For example, they note that although the same number of hassles and uplifts were reported by adolescent girls and boys, girls reported the hassles as "bad" more often than did the boys. Moreover, for boys there

Appendix C – Asperger Syndrome

Asperger syndrome has three diagnostic criterions: *(1) Impairment in social interaction by being Inflexible and logical to a fault; (2) restricted, repetitive patterns of behavior, interests, and activities; (3) clinically significant impairment in social, occupational, and other functions relating to public settings.*

Women with aspergers syndrome are more likely to be asexual or bisexual, and have a masculine personality that tends towards aggressiveness in violence.

Michael Fitzgerald posits that the asperger personality has several traits favorable to successful writing. These individuals have narrow interests and pursue these interest with workaholic zeal; excellent memory retention for detail; a unique perspective and lack of interest in the opinions of others that lead them into original subject matter and a means of expression; superior verbal skills; and use their artistic creations as a therapeutic means of overcoming failures to express themselves in more conventional ways.

Creativity in writers with Asperger syndrome may be limited by other factors relating to that creativity; such as genes predisposing to mood disorders.

Appendix D – Body Dysmorphic Disorder

Diagnostic Features

A. Preoccupation with an imagined defect in appearance. If a slight physical anomaly is present, the person's concern is markedly excessive.

B. The preoccupation causes clinically significant distress or impairment in social, occupational, or other important areas of functioning.

C. The preoccupation is not better accounted for by another mental disorder (e.g., dissatisfaction

Body Dysmorphic Disorder may be associated with Major Depressive Disorder, Delusional Disorder, Social Phobia, and Obsessive-Compulsive Disorder.

Specific Culture and Gender Features

Cultural concerns about physical appearance and the importance of proper physical self-presentation may influence or amplify preoccupations about an imagined physical deformity. Body Dysmorphic Disorder may be equally common in women and in men in outpatient mental health settings.

Appendix E - Brain Abnormalities and Inheritance[41]

Abnormalities in brain anatomy or chemistry are sometimes the result of genetic inheritance. Studies suggest that inheritance also plays a part in mood disorders, schizophrenia, Alzheimer's disease, and other mental disorders. Genes that contribute to mental disorders are typically viewed as unfortunate occurrences—almost mistakes of inheritance. The responsible gene may be a mutation, an abnormal form of the appropriate gene that emerges by accident. According to some theorists…many of the genes that contribute to abnormal functioning are actually the result of normal evolutionary principles…In general, evolutionary theorists argue that human reactions and the genes responsible for them have survived over the course of time because they have helped individuals to thrive and adapt…The evolutionary position with regard to abnormal functioning follows a similar logic. According to evolutionary theorists, the capacity to experience fear was, and in many instances still is, adaptive.

Another possible source of abnormal brain structure or biochemical dysfunctioning is viral infections. *For example, research suggests that schizophrenia, a disorder marked by delusions, hallucinations, or other departures from reality, may be related to exposure to certain viruses during childhood or in utero, before birth. Studies have found that mothers of many individuals with this disorder contracted influenza or related viruses during their pregnancy. This and related pieces of circumstantial evidence suggest that a damaging virus may enter the fetus's brain and remain dormant there until the individual reaches puberty or young adulthood. At that time, activated by hormone changes or by another infection, the virus may produce the symptoms of schizophrenia* (53-54).

Odd personality disorders consist of the paranoid, schizoid, and schizotypal personality disorder. People with these disorders typically display odd or eccentric behaviors that are similar to but not as extensive as those seen in schizophrenia, including extreme suspiciousness, social withdrawal, and peculiar ways of thinking and perceiving things (513).

[41] Comer, Ronald J. *Abnormal Psychology*. Seventh Edition. Princeton University. New York. 2010

Appendix F – Drugs and Women

http://www.cnsproductions.com/pdf/Aldrich.pdf

HISTORICAL NOTES ON WOMEN ADDICTS, Michael R. Aldrich, Ph.D.*

When opiates were freely available with or without prescription, addicts were more likely to be women than men. Courtwright (1982:36) went so far as to say that "the outstanding feature of nineteenth-century opium and morphine addiction is that the majority of addicts were women."

As early as 1701, in Dr. John Jones's *The Mysteries of Opium Reveal'd*, medical authorities established different, usually lower, doses of opiates for women than for men. Jones lists nearly 30 different opium preparations available, with doses for "strong, middling or weak men" that were higher than for "strong, middling or weak women." Such was the primitive beginning of dose-effect relationships by body weight. Gender differentiated dosage has been common in medical texts ever since, and this has spilled over into nonmedical use as well. It was largely because medical usage made this distinction very early that it was considered safe for women to take opiates; this was a fundamental, underlying reason for widespread addiction among women during the eighteenth century and nineteenth century.

Female addiction grew in the early nineteenth century with widespread use of laudanum compounds and patent medicines for "female troubles," "nervousness," and fashionable "melancholy" (depression). Courtwright (1982:49) commented that "the higher rate of women derives, in part, from the prevalence of dysmenorrhea and other gynecological disorders. The habit of middle-class and upper-class females complaining of (or being diagnosed by male doctors as suffering from) 'diseases of a nervous character' could only have aggravated the problem."

Appendix G - Epilepsy

Any of various neurological disorders characterized by sudden recurring attacks of motor, sensory, or psychic malfunction with or without loss of consciousness or convulsive seizures[42]

Epilepsy is a chronic disorder of cerebral function characterized by periodic convulsive seizures. There are many conditions that have epileptic seizures. Generalized seizures are classified as tonic-clonic (grand mal), in which there is loss of consciousness and involuntary contraction of all the muscles of the body, lasting a few minutes; or absence (petit mal), in which there is clouding of the consciousness for about 1 to 30 seconds and no falling, with as many as 100 attacks occurring daily. Partial seizures include Jacksonian epilepsy, characterized by jerking in the hand and face on the side opposite the brain activity; and psychomotor seizures, in which there may be localized convulsion with no loss of consciousness, as well as incoherent speech and various involuntary movements of the body.

The cause is unknown in over half the cases of epilepsy, especially those with onset under age 20. Predisposing factors in other cases include familial history, head injury, alcohol withdrawal, infections (such as meningitis), and abnormalities (such as tumors) of the brain (927). [43]

[42] The American Heritage® Dictionary of the English Language, Fourth Edition. Copyright © 2006, 2000 by Houghton Mifflin Company. Published by Houghton Mifflin Company. All rights reserved.

[43] Lagasse, Paul (Ed.). The Columbia Encyclopedia. Sixth Edition. Columbia University Press. 2000

Appendix H - Hardiness[44]

The atmosphere that breeds hardiness contains the following: the social and physical environment changes frequently, and includes many moderately difficult tasks. Parents encourage their children to construe the changes as richness and support efforts to perform the tasks successfully. More generally, the parents are warm and enthusiastic enough toward the children that their interactions are usually pleasant, rewarding, and supportive of the child's individuality.

In this atmosphere, children are very likely to develop hardiness, taking it with them as they become older and leave their families. Having a general sense that the environment is satisfying, they examine it with curiosity and enthusiasm—with commitment, rather than alienation. Having confidence in their capability for mastery, they approach life's tasks and events as problems they can solve and as situations they can influence—with control, not powerlessness. Having a sense of the richness and possibilities of life, they approach changes as something of developmental value when properly understood—as challenge rather than threat.

Hardiness does not depend upon the socioeconomic background, but it does depend upon whether the child feels nurtured and loved or abandoned. Abandonment in early childhood by a mother can result in a feeling of alienation, because the child is deprived of the company of their mothers, and a mother substitute may not fill their emotional needs. Some children who are abandoned early in life by their mothers often feel powerlessness and a lack of control. It is a family atmosphere rather than background that breeds personality hardiness.

[44] Monat, Alan and Richard S. Lazarus (Eds.) Stress and Coping: An Anthology. 3rd. Edition. (Eds.) Columbia University Press. New York. 1991

Appendix I - Mercury poisoning

Mercury poisoning (also known as hydrargyria or **mercurialism**) is a disease caused by exposure to mercury or its compounds. Mercury (chemical symbol Hg) is a heavy metal occurring in several forms, all of which can produce toxic effects in high enough doses.

Symptoms typically include sensory impairment (vision, hearing, and speech), disturbed sensation and a lack of coordination. The type and degree of symptoms exhibited depend upon the individual toxin, the dose, and the method and duration of exposure.

Causes

The consumption of fish is by far the most significant source of ingestion-related mercury exposure in humans and animals, although plants and livestock also contain mercury due to bioaccumulation of mercury from soil, water and atmosphere, and due to biomagnification by ingesting other mercury-containing organisms.[5] Exposure to mercury can occur from breathing contaminated air,[6] from eating foods that have acquired mercury residues during processing,[7] from exposure to mercury vapor in mercury amalgam dental restorations,[8] and from improper use or disposal of mercury and mercury-containing objects, for example, after spills of elemental mercury or improper disposal of fluorescent lamps.[9]

Human-generated sources, such as coal plants, emit about half of atmospheric mercury, with natural sources such as volcanoes responsible for the remainder. An estimated two-thirds of human-generated mercury comes from stationary combustion, mostly of coal. Other important human-generated sources include gold production, nonferrous metal production, cement production, waste disposal, human crematoria, caustic soda production, pig iron and steel production, mercury production (mostly for batteries), and biomass burning.[11]

Mercury and many of its chemical compounds, especially organomercury compounds, can also be readily absorbed through direct contact with bare, or in some cases (such as dimethylmercury) insufficiently protected, skin. Mercury and its compounds are commonly used in chemical laboratories, hospitals, dental clinics, and facilities involved in the production of items such as fluorescent light bulbs, batteries, and explosives.[12]

High exposures to mercury in its various forms are particularly toxic to fetuses and infants. Women who have been exposed to mercury in substantial excess of dietary selenium intakes during pregnancy are at risk of giving birth to children with serious birth defects. Mercury exposures in excess of dietary selenium intakes in young children

can have severe neurological consequences, preventing nerve sheaths from forming properly. Mercury inhibits the formation of myelin.

Elemental mercury

In humans, approximately 80% of inhaled mercury vapor is absorbed via the respiratory tract, where it enters the circulatory system and is distributed throughout the body.[21] Chronic exposure by inhalation, even at low concentrations in the range 0.7–42 μg/m^3, has been shown in case control studies to cause effects such as tremors, impaired cognitive skills, and sleep disturbance in workers.[22][23] Acute inhalation of high concentrations causes a wide variety of cognitive, personality, sensory, and motor disturbances. The most prominent symptoms include tremors (initially affecting the hands and sometimes spreading to other parts of the body), emotional lability (characterized by irritability, excessive shyness, confidence loss, and nervousness), insomnia, memory loss, neuromuscular changes (weakness, muscle atrophy, muscle twitching), headaches, polyneuropathy (paresthesia, stocking-glove sensory loss, hyperactive tendon reflexes, slowed sensory and motor nerve conduction velocities), and performance deficits in tests of cognitive function.[19]

Mercuric cyanide

Mercuric cyanide (also known as Mercury (II) cyanide), $Hg(CN)_2$, is a particularly toxic mercury compound. If ingested, both life-threatening mercury and cyanide poisoning can occur. $Hg(CN)_2$ can enter the body via inhalation, ingestion, or passage through the skin. Inhalation of mercuric cyanide irritates the throat and air passages. Heating or contact of $Hg(CN)_2$ with acid or acid mist releases toxic mercury and cyanide vapors that can cause bronchitis with cough and phlegm and/or lung tissue irritation. Contact with eyes can cause burns and brown stains in the eyes, and long-time exposure can affect the peripheral vision. Contact with skin can cause skin allergy, irritation, and gray skin color.[25] Chronic exposure to trace amounts of the compound can lead to mercury buildup in the body over time; it may take months or even years for the body to eliminate excess mercury. Overexposure to mercuric cyanide can lead to kidney damage and/or mercury poisoning, leading to 'shakes' (ex: shaky handwriting), irritability, sore gums, increased saliva, metallic taste, loss of appetite, memory loss, personality changes, and brain damage. Exposure to large doses at one time can lead to sudden death.[25]

Dental amalgam

Dental amalgam, an alloy of about 50 percent elemental mercury, was first introduced in France in the early 19th century.[72] Chosen for its cost-effective durability, this amalgam is a source of low-level exposure to mercury vapour, and an enormous

amount of controversy. Although the vast majority of patients with amalgam fillings are exposed to levels believed to be too low to pose any risk to health, many patients (i.e., those in the upper 99.9 percentile) exhibit urine test results that are comparable to those at the maximum allowable legal limits for workplace (occupational) safety.

Appendix J- Mood Disorders[45]

Depression

Depression and mania are the key emotions in mood disorders. Depression is a low, sad state in which life seems dark and its challenges overwhelming. Mania, the opposite of depression, is a state of breathless euphoria, or at least frenzied energy, in which people may have an exaggerated belief that the world is theirs for the taking. Most people with mood disorder suffer only from depression, a pattern called uni-polar depression. They have no history of mania and return to a normal or nearly normal mood when their depression lifts. Others experience periods of mania that alternate with periods of depression, a pattern called bipolar disorder. A third pattern of mood disorder, unipolar mania, in which people suffer from mania only, is uncommon (241).

All individuals at one time or another experience depression, but only some individuals experience unipolar depression. Clinical depression has no redeeming characteristics. It brings severe and long-lasting psychological pain that may intensify as time goes by. Those who suffer from it may lose their will to carry out the simplest of life's activities; some even lose their will to live. People of any age can suffer from mood disorders, and girls/women are twice as likely as men to experience episodes of severe unipolar depression (242).

Symptoms of depression are indecisiveness, uncontrollable sobbing, and feelings of despair, anger and worthlessness brought about by problems with professional or social lives. Most people who are depressed often feel sad and dejected, and consider themselves inadequate, undesirable, inferior and perhaps evil. People with depression frequently have physical ailments as headaches, indigestion, constipation, dizzy spells, and general pain. People going through depression are less active, less productive, spend a tremendous time alone. Suicide represents the ultimate escape from depression (243-244).

Studies on genetic factors relating to depression have found that they range in four areas: family pedigree, twin, adoption, and molecular biology. The two areas of significance related to the Brontë family are family pedigree—more than one family member suffers from unipolar depression and molecular biology—individuals who have low activity of two neurotransmitter chemicals, norepinephrine and serotonin. The body's endocrine system may play a role in unipolar depression. The endocrine glands throughout the body release hormones during times of stress. People with unipolar

[45] Comer, Ronald J. *Abnormal Psychology*. Seventh Edition. Princeton University. New York. 2010

depression have been found to have abnormally high levels of cortisol, one of the hormones released by the adrenal glands during times of stress (249-250).

Bipolar disorder

Many people with bipolar disorder experience both the lows of depression and the highs of mania. Many describe their life as an emotional roller coaster, as they shift back and forth between extreme moods. A number of suffers eventually become suicidal. Unlike people sunk in the gloom of depression, those in a state of mania typically experience dramatic and inappropriate rises in mood. The symptoms of mania span the same areas of functioning—emotional, motivational, behavioral, cognitive, and physical—as those of depression, but mania affects those areas in a opposite way (263).

In the motivational realm, people with mania seem to want constant excitement, involvement, and companionship. They enthusiastically seek out new friends and old, new interests and old, and have little awareness that their social style is overwhelming, domineering, and excessive. The behavior of people with mania is very active. They move quickly, as though there were not enough time to do everything they want to do. They may talk rapidly and loudly, their conversation filled with jokes and efforts to be clever or, conversely, with complaints and verbal outbursts. Flamboyant is not uncommon: dressing in flashy cloths, giving large sums of money to strangers, or even getting involved in dangerous activities. People with mania usually show poor judgment and planning, as if they feel too good or move too fast to consider possible pitfalls (264).

There are two types of bipolar disorders: bipolar I disorder and bipolar II disorder. In bipolar I disorder, people have full manic and major depressive episodes; for example, weeks of mania followed by a period of wellness, followed, in turn, by an episode of depression. Some people, however, have mixed episodes, in which they swing from manic to depressive symptoms and back again on the same day. In bipolar II disorder, hypomanic—that is, mildly manic—episodes alternate with major depressive episodes over the course of time. Some people with this pattern accomplish huge amounts of work during their mild manic periods. If people experience four or more episodes within a one-year period, their disorder is further classified as rapid cycling (264).

Many theorists believe that people inherit a biological predisposition to develop bipolar disorders. Family pedigree studies support this idea. Identical twins of persons with a bipolar disorder have a 40 percent likelihood of developing the same disorder, and fraternal twins, siblings, and other close relatives of such persons have 5 to 10 percent likelihood, compared to the 1 to 2.6 percent prevalence rate in the general population (270).

Example of twentieth-century Bi-Polar disorder: Kay Redfield Jamison[46]

"I doubt sometimes whether
a quiet & unagitated life
would have suited me—yet I
sometimes long for it.
—Byron

"For as long as I can remember I was frighteningly, although often wonderfully, beholden to moods. Intensely emotional as a child, mercurial as a young girl, first severely depressed as an adolescent, and then unrelentingly caught up in the cycles of manic-depressive illness by the time I began my professional life, I became, both by necessity and intellectual inclination, a student of moods." (4-5)

"My manias, at least in their early and mild forms, were absolutely intoxicating states that gave rise to great personal pleasure, an incomparable flow of thoughts, and a ceaseless energy that allowed the translation of new ideas into papers and projects…. I am fortunate that I have not died from my illness, fortunate in having received the best medical care available, and fortunate in having the friends, colleagues, and family that I do." (5-6)

"My father, a career Air Force officer, was first and foremost a scientist and only secondarily a pilot. But he loved to fly, and, because he was a meteorologist, both his mind and his soul ended up being in the skies. Like my father, I looked up rather more than I looked out." Kay Redfield Jamison. (11)

"….like all military families, we moved a lot—by the fifth grade my older brother, sister, and I had attended four different elementary schools….My brother was the eldest and the steadiest of the three of us children and my staunch ally….My relationship with my sister, who was only thirteen months older than me, was more complicated….She had a charismatic way, a fierce temper, very black and passing moods, and little tolerance for the conservative military lifestyle that she felt imprisoned us all. She led her own life, defiant, and broke out with abandon whenever and wherever she could. She hated high school and, frequently skipped classes to go to the Smithsonian or the Army Medical Museum…." Kay Redfield Jamison. (13-14)

"….My sister…was not an easy or untroubled person, and as she grew older her troubles grew with her, but she had an enormous artistic imagination and soul. She also could break your heart and then provoke your temper beyond any reasonable level of endurance. Still, I always felt a bit like pieces of earth to my sister's fire and flames." Kay Redfield Jamison. (15)

"….For his part, my father, when involved, was often magically involved: ebullient, funny, curious about almost everything, and able to describe with delight and originality the beauties and phenomena of the natural world. A snowflake was never just a snowflake, nor a cloud just a cloud. They became events and characters, and part of a lively and oddly ordered universe. When times were good and his moods were at high tide, his infectious enthusiasm would touch everything. Music would fill the house, wonderful new pieces of jewelry would appear—a moonstone ring, a delicate bracelet of cabochon rubies, a pendant fashioned from a moody sea-

[46] Jamison, Kay Redfield. M.D. *An Unquiet Mind*: A Memoir of Moods and Madness. Vintage Books-A Division of Random House, Inc. New York. 1995.

green stone set in a swirl of gold—and we'd all settle into our listening mode, for we knew that soon we would be hearing a very great deal about whatever new enthusiasm had taken him over." Kay Redfield Jamison. (16)

"….My mother has said, many times, that she always felt she was in the shadow of my father's wit, charm, intensity, and imagination. Her observation that he was a Pied Piper with children certainly was borne out by his charismatic effect upon my friends and the other children in whatever neighborhood we found ourselves. My mother, however, was always the one my friends wanted to sit down and talk with: we played with my father; we talked with my mother." Kay Redfield Jamison. (16)

"….My father retired from the Air Force and took a job as a scientist at the Rand Corporation in California. It was in 1961, I was fifteen years old, and everything in my world began to fall apart." (31) *"….Within a year or so of moving to California, my father's moods were furthering blacking, and I felt helpless to affect them. I waited and waited for the return of the laughter and high moods and awesome enthusiasms, but, except for rare appearances, they had given way to anger, despair, and bleak emotional withdrawal. After a while, I scarily recognized him. At tomes he was immobilized by depression, unable to get out of bed, and profoundly pessimistic about every aspect of his life and a future. I soon found out that was not just my father who was given to black and chaotic moods. By the time I was sixteen or seventeen, it became clear that my energies and enthusiasms could be exhausting to the people around me, and after long weeks of flying high and sleeping little, my thinking would take a downward turn toward the really dark and brooding side of life.* " (34-35)

"My two closest friends, both males—attractive, sardonic, and intense—were a bit inclined to the darker side as well, and we became an occasionally troubled trio….We all came by our black chaos honestly: two of us, were to discover later, had manic-depressive illness in our immediate families; the other's mother had shot herself through the heart. We experienced together the beginnings of the pain that we each would know, later, alone. (35-37).

Appendix K - Personality Disorders[47]

A personality disorder is an inflexible pattern of inner experience and outward behavior. The pattern is seen in most of the person's interactions, continue for years, and differs markedly from the experiences and behaviors usually expected of people.

Personality disorders typically become recognizable in adolescence or early adulthood, although some start during childhood. These are among the most difficult psychological disorders to treat. Many sufferers are not even aware of their personality problems and fail to trace their difficulties to their inflexible style of thinking and behaving. It has been estimated that between 9 and 13 percent of all adults may have a personality disorder.

It is common for a person with a personality disorder also to suffer from an acute (Axis I) disorder, a relationship called comorbidity.

(509)

Anxious Personality Disorders

The cluster of anxious personality disorders includes the avoidant, dependent and obsessive personality disorders. People with these patterns typically display anxious and fearful behavior. Although many of the symptoms of these disorders are similar to those of the anxiety and depressive disorders, researchers have not found direct links between this cluster and those Axis I patterns (535).

The anxious personality disorders upon which we are focusing for this paper are the avoidant and obsessive-compulsive personality disorders.

<u>Avoidant Personality Disorder</u> (535-536)

People with avoidant personality disorder are very uncomfortable and inhibited in social situations, overwhelmed by feelings of inadequacy, and extremely sensitive to negative evaluation. They are so fearful of being rejected that they give no one an opportunity to reject them—or to accept them either….These types of people avoid occasions for social contact.

People with this disorder believe themselves to be unappealing or inferior to others. They exaggerate the potential difficulties of new situation, so they seldom take risks or try out new activities. They usually have few or no close friends, though they

[47] Comer, Ronald J. *Abnormal Psychology*. Seventh Edition. Princeton University. New York. 2010

actually yearn for intimate relationships, and frequently feel depressed and lonely. ***As a substitute, some develop an inner world of fantasy and imagination…****.Between 1 and 2 percent of adults have avoidant personality disorder, men as frequently as women.*

Obsessive-Compulsive Personality Disorder (539-540)

People with obsessive-compulsive personality disorder are so preoccupied with order, perfection, and control that they lose all flexibility, openness, and efficiency. Their concern for doing everything "right" impairs their productivity. Many people with this disorder are so concerned with rules and order and doing things right, that they have trouble seeing the larger picture. When faced with a task, they are so focused on organization and details that they fail to grasp the point of the activity.

People with this personality disorder set unreasonably high standards for themselves and others. They can never be satisfied with their performance, but they typically refuse to seek help or to work with a team, convinced that others are too careless or incompetent to do the job right. Because they are afraid of making mistakes, they may be reluctant to make decisions.

These individuals also tend to be rigid and stubborn, particularly in their morals, ethics, and values. They live by strict personal code and use it as a yardstick for measuring others. They may have trouble expressing much affection, and their relationships are sometimes stiff and superficial. In addition, they are often stingy with their time or money.

Between 1 and 2 percent of the population are believed to display obsessive-compulsive personality disorder, with white, educated, married, and employed individuals receiving the diagnosis most often. Men are twice as likely as women to display the disorder.

Borderline Personality Disorder (523-525)

People with borderline personality disorder display great instability, including major shifts in mood, and unstable self-image, and impulsivity. These characteristics combine to make their relationships very unstable as well.

People with borderline personality disorder swing in and out of very depressive, anxious, and irritable states that last anywhere from a few hours to a few days or more. Their emotions seem to be always in conflict with the world around them. They are prone to bouts of anger, which sometimes result in physical aggression and violence.

Just as often, however, they direct their impulsive anger inward and inflict bodily harm on themselves. Many seem troubled by deep feelings of emptiness.

Many individuals with borderline personality disorder hurt themselves. Their impulsive, self-destructive activities may range from alcohol and substance abuse to delinquency and unsafe sex….Many engage in so-called self-injurious or self-mutilation behaviors, such as cutting or burning themselves….Although these behaviors typically cause immense physical suffering, those with borderline personality disorder often feel as if the physical discomfort offers relief from their emotional suffering. It may serve as a distraction from their emotional or interpersonal upsets, "snapping" them out of an "emotional overload."

Suicidal threats and actions are also common. Studies suggest that around 75 percent of people with borderline personality disorder attempt suicide at least once in their lives; as many as 10 percent actually commit suicide. The rate of suicide among individuals with the disorder may be as much as 50 times higher than the rate found in the general population.

People with borderline personality disorder frequently form intense, conflict-ridden relationships in which their feelings are not necessarily shared by the other person. They may come to idealize another person's qualities and abilities after just a brief first encounter. They also may violate the boundaries of relationships. Think in dichotomous (black and white) terms, they quickly become furious when their expectations are not met; yet they remain very attached to the relationships. In fact people with this disorder have recurrent fears of impending abandonment and frequently engage in frantic efforts to avoid real or imagined separations from important people in their lives.

Suffers of borderline personality disorder typically experience dramatic shifts in their identity. An unstable sense of self may produce rapid shifts in goals, aspirations, friends, and even sexual orientation. The individuals may also experience an occasional sense of dissociation, or detachment, from their own thoughts or bodies. Indeed, at times they may experience no sense of themselves at all, leading to the feeling of emptiness.

Between 1 and 2.5 percent of the general population are thought to suffer from borderline personality disorder. Close to 75 percent of the patients who receive the diagnosis are women….Males with borderline personality disorder may display more aggressive, disruptive, and antisocial behaviors than females. Given the chaotic and unstable relationships characteristic of borderline personality disorder, it is not surprising

that this disorder tends to interfere with job performance more than most other personality disorders.

Histrionic Personality Disorder (530-531)

People with histrionic personality disorder are extremely emotional—they are typically describes as "emotionally charged"—and continually seek to be the center of attention. Their exaggerated moods can complicate life considerably.

People with histrionic personality disorder are always "on stage," using theatrical gestures and mannerisms and grandiose language to describe ordinary everyday events….Approval and praise are the life's blood of these individuals; they must have others present to witness their exaggerated emotional states. Vain, self-centered, demanding, and unable to delay gratification for long, they overact to any minor event that gets in the way of their quest for attention.

People with this disorder may draw attention to themselves by exaggerating their physical illnesses or fatigues. They may also behave very provocatively and try to achieve their goals through sexual seduction. Most obsess over how they look and how others will perceive them….They exaggerate the depth of their relationships, considering themselves to be intimate friends of people who see them as no more than casual acquaintances. ***Often they become involved with romantic partners who may be exciting but who do not treat them well.*** *The latest statistics suggest that 2 to 3 percent of adults have this personality disorder, with males and females equally affected.*

Narcissistic Personality Disorder (531, 534)

People with narcissistic personality disorder are generally grandiose, need much admiration, and feel no empathy with others. Convinced of their own great success, power, or beauty, they expect constant attention and admiration from those around them.

The Greek myth has it that Narcissus died enraptured by the beauty of his own reflection in a pool, pinning away with longing to possess his own image. His name has come to be synonymous with extreme self-involvement, and indeed people with narcissistic personality disorder have a grandiose sense of self-importance. They exaggerate their achievements and talents, expecting others to recognize them as superior, and often appear arrogant. They are very choosy about their friends and associates, believing that their problems are unique and can be appreciated only by other "special," high-status people. Because of their charm, they often make favorable first impressions. Yet they can rarely maintain long-term relationships.

People with narcissistic personality disorder are seldom interested in the feelings of others. Many take advantage of others to achieve their own ends, perhaps partly out of envy; at the same time they believe others envy them. Though grandiose, some of these individuals react to criticism or frustration with bouts of range or humiliation. Others may react with cold indifference. And still others become extremely pessimistic and filled with depression. Periods of zest may alternate with periods of disappointment.

Around 1 percent of adults display narcissistic personality disorder, up to 75 percent of them men.

Appendix L - Tuberculosis

Up to one-third of the world's population has latent infection with TB, and is thus at risk for developing active disease. The earliest strains of TB likely evolved along with early humans in East Africa some two million years ago.

Until modern times, TB was probably present in most human populations worldwide, smoldering along at a low level. However, it spread explosively with the rapid growth of cities during the Industrial Revolution, as crowding and urbanization aided the spread of TB and many other infectious diseases. Population growth may have also favored the emergence of more aggressive strains of TB at this time.

England was the epicenter of a TB epidemic that went global. At its peak in 1800, TB killed off up to 1 percent of the English population yearly, and death rates from TB remained high for most of the nineteenth century.

Death rates were high enough that natural selection may also have played a role in the decline of TB. Genes enhancing resistance to TB may have been selected for in populations with heavy exposure. Unfortunately, genes that enhance the immune response to TB may increase the risk for various autoimmune diseases, such as rheumatoid arthritis, lupis, sarcoidosis, and Crohn's disease, in which the body is damaged by its own hyperactive immune system.

TB spreads from person to person through the air. When a person with active TB coughs, they generate aerosols containing bacteria suspended in sputum. This is especially likely if TB has created cavities in the lungs. Some of these airborne secretions dry out, and turn into tiny droplet nuclei, which stay aloft and viable for several hours. Droplet nuclei are the ideal size to drift into the deepest recesses of the lungs, the alveoli, without getting filtered out by the airways.

Once TB gains a foothold in the lungs, there are many possible outcomes. Some people have exceptional natural resistance to the disease: their lung macrophages, amoeba-like immune cells, engulf the bacteria and destroy them completely. In those with poor resistance, the bacteria multiply unchecked, leading to death from overwhelming infection in weeks to months. This is particularly common in children—as may have happened to some of the girls at the Clergy Daughter's' School—but in most patients, the outcome of infection is a sort of bacterial cold war, in which the immune system attempts to contain the bacteria in enclosures called granulomas.

Within the granulomas, dormant bacteria are suspended in cheesy material known as caseum, surrounded by a palisade of macrophages. Idle TB bacilli in

granulomas may remain viable for up to several decades, a condition known as latent TB infection. These patients appear well, but infection may be detected by a skin test with purified protein derivative (PPD), or through a recently developed blood test called an interferon-gamma release assay.

Today, patients with latent infection are treated with nine months of an antibiotic called isoniazid to prevent the development of active infection. In 10 percent of untreated patients with TB, the immune system weakens, and the process of containment breaks down. The cheesy caseum liquefies and is coughed up, and the patient develops a lung cavity teeming with enormous numbers of TB bacilli. In the preantibiotic era, some patients might be able to contain the infection again, but at a huge cost. Each relapse of active infection results in healthy lung tissue being replaced by scar tissue.

Many factors enhance the spread and virulence of TB. Crowding increases likelihood of inhaling another person's TB bacilli. Poor nutrition, stress, and depression weaken the immune response. As Charlotte would note in Shirley, "People never die of love or grief along; though some dies of inherent maladies, which the tortures of those passions prematurely force into destructive action."

Exposure to smoke and air pollution reduce the effectiveness of the first line of defense, the ability of the lung machrophages to eradicate TB bacilli. …Certain age groups—infants, the elderly, adolescents, and young adults—are particularly vulnerable to active TB infection. Heavy drinking is probably an independent risk factor, although this is difficult to disentangle from the poverty and stress that usually accompany alcoholism.

TB can spread with awful efficiency in confined spaces, such as prisons, schools, and homeless shelters. Patients with lung cavities are notoriously effective at dispersing Mycobacterium tuberculosis in these settings.

Appendix M - The Unbearable Lightness of Being

Philosophical underpinnings

Challenging Friedrich Nietzsche's concept of eternal recurrence (the idea that the universe and its events have already occurred and will recur *ad infinitum*), the story's thematic meditations posit the alternative; that each person has only one life to live, and that which occurs in life occurs only once and never again — thus the "lightness" of being. In contrast, the concept of eternal recurrence imposes a "heaviness" on our lives and on the decisions we make (to borrow from Nietzsche's metaphor, it gives them "weight".) Nietzsche believed this heaviness could be either a tremendous burden or great benefit depending on the individual's perspective.

The "unbearable lightness" in the title also refers to the lightness of love and sex, which are themes of the novel. Kundera portrays love as fleeting, haphazard and perhaps based on endless strings of coincidences, despite holding such significance for humans.

List of Reading Materials

Alexander, Christine, ed. *The Brontës. Tales of Glass Town, Angria, and Gondal*. Selected Writings. Oxford University Press. Oxford. 2010

Barker, Juliet. *The Brontës*. New York and London. Pegasus Books. 2010.

Brontë, Anne. *Agnes Grey*. Oxford University Press. Oxford. 2010

Brontë, Anne. *The Tenant of Wildfell Hall*. Broadview Edition. New South Books New Zealand. Lee Talley (Ed.) 2009

Brontë, Charlotte. *Jayne Eyre*. W.W. Norton & Company. New York, London. Richard J. Dunn, ed. 2001.

Brontë, Emily. *Wuthering Heights*. W.W. Norton & Company. New York, London. Richard J. Dunn, Ed. 2003

Research Materials

Breslau, N. and Davis, G.C. 1987. Postraumatic stress disorder: the etiologic specificity of wartime stressors. American Journal of Psychiatry, 144, 578-583.

Breslau, N., Davis, G.C., Andreski, P., and Peterson, E. 1995. Risk factors for PTSD-related traumatic events: A prospective analysis. *American Journal of Psychiatry*, 152, 529-535.

Body-dysmorphic-disorder. **http://www.lrwalker.net/diagnostic-criteria-for-3007-body-dysmorphic-disorder.htm**

Byron, George Gordon. *Lord Byron: The Major Works, including Don Juan and Childe Harold's Pilgrimage*. Oxford University Press. Jerome J. McGann (ed.) Oxford. 2008

Comer, Ronald J. *Abnormal Psychology*. Seventh Edition. Princeton University. New York. 2010

Frank, Catherine. *A Chainless Soul, A life of Emily Brontë*. Boston. Houghton Mifflin Company. 1990

Gérin, Winifred E. *Anne Bronte*. Thomas Nelson and Sons Ltd., London. 1959

Jamison, Kay Redfield. M.D. *An Unquiet Mind*: A Memoir of Moods and Madness. Vintage Books-A Division of Random House, Inc. New York. 1995.

Kundera, Milan. *The Unbearable Lightness of Being*. Michael Henry Heim (Trans.). Harper & Roe, Publishers, Inc. New York. 1984

Lagasse, Paul (Ed.). The Columbia Encyclopedia. Sixth Edition. Columbia University Press. 2000

McNally, Richard J. *Remembering Trauma*. The Belknap Press of Harvard University Press. Cambridge. 2005

Monat, Alan and Richard S. Lazarus (Eds.) Stress and Coping: An Anthology. 3rd. Edition. (Eds.) Columbia University Press. New York. 1991

Mercury poisoning. http://www.cnsproductions.com/pdf/Aldrich.pdf

Rose, Arnold Marshall. Ed. 1962. Human behavior and social processes; an interactionist approach. Boston: Houghton Mifflin. Pp. 179-192. Chapter 9. Herbert Blumer. "Society as Symbolic Action."

Ross, John. J., M.D. *Shakespeare's Tremor and Orwell's Cough*: The Medical Lives of Great Writers. St. Martin's Press. New York 2012. Chapter 4. *Some Sweet Poisoned Breeze had Passed into her Lungs:* The *Brontës and Tuberculosis.*

Shuttleworth, Sally. *Charlotte Brontë and Victorian Psychology*. Cambridge University Press. Cambridge. 1996

Veith, Ilza. *Hysteria, The History of a Disease*. London. University of Chicago Press, Ltd. 1965