

ELLEN G. WHITE:

"Visions" vs. Partial-complex Seizures

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The Seventh-Day Adventist Church was born in the period of time that immediately followed the "Great Disappointment" of 1844. From all religious denominations sincere people left their churches to join the "Millerite Movement", a movement that, with evangelical fervor not since seen, was predicting the end of the world and the coming of Jesus Christ on October 22, 1844. In preparation for this event, earthly possessions were dispensed with and conflicting family and social ties were severed as they waited for Christ to return. Christ did not return as expected on October 22, 1844, and the magnitude of this "Great Disappointment" can be only partially imagined today. It was from the group of people that suffered and survived this disappointment that the Seventh-Day Adventist Church was conceived and grew to be a major Protestant denomination containing more than 2,000,000 members and medical and educational institutions that circle the globe.

There is no one individual entirely responsible for the success of the Seventh-Day Adventist Church, but there is no question that Ellen G. White was the one most influential person during the time of its formation. Were it not for Mrs. White one wonders if there would be a Seventh-Day Adventist Church today. Her 100,000 pages of writing continue to be an authority for the Adventist church second only to the Bible. Seeing the Bible through the writings of Mrs. White has resulted in some of the unique doctrines held by the Adventist church. Mrs. White claimed to be a "Messenger of God" and the church accepted her as a "Prophet of God" and continues to believe that God gave her specific instructions and guidance through her visions. It was the supernatural nature of these "visions" that was one of the most significant early evidences that she was being used by God as a prophet and it is these same events that continue to be evidence of her inspiration to most Adventists.

#### INTRODUCTION:

During 1844, thousands of sincere people left their churches, severed earthly ties, and joined the "Millerite Movement", a movement that was predicting the end of the world and the coming of Jesus Christ on October 22, 1844. Christ obviously did not return as expected and it was from the group of people who suffered and survived this disappointment that the Seventh-day Adventist Church was conceived and subsequently has grown to become a major Protestant denomination now containing more than 3.5 million members around the world.

Although there is no one individual entirely responsible for the success of the Seventh-day Adventist Church, there is no question that Ellen Gould White was the one most influential person during the time of its formation in 1865 and during its first 50 years until her death in 1915. Her 46 volumes of writing containing 25 million words combine with the Bible as the doctrinal basis of the Adventist Church today.

Mrs. White was accepted as a "prophet" based on the specific instructions and guidance given her through nearly 2,000 visions. It was the seemingly supernatural nature of these "visions" that was the most significant early evidence suggesting that she was being used by God as a prophet. It is the purpose of this paper to point out the similarity of her visions with partial-complex seizures.

#### ACCIDENT:

Ellen was in good health until age 9, when she was hit on her nose and forehead by a rock thrown by a classmate. The impact resulted in an immediate loss of consciousness followed by a lucid interval and then the re-loss of consciousness. She is described as being in a stupor, wavering between life and death, for a full three weeks thereafter.

Following this serious head injury, Ellen is described as being shunned by her friends because of her disfigured face that was such that even her father was said to have been scarcely able to recognize her. She was unable to successfully return to school because of difficulty with reading and shaking of her hands that prevented writing, thus, she never finished the third grade. Her personality also changed, and she is described as becoming an avid Bible student and an intensely religious person after the accident.

#### VISIONS:

It was at the age of 17, during an intense prayer session, that Ellen White had her first "vision." Her "visions" occurred frequently while in intense prayer sessions but also, abruptly, while preaching or talking with friends, or when alone. Following are typical descriptions of her while in "vision."

M. Loughborough - organizer of the Seventh-day Adventist Church:

"In passing into vision, she gives three enrapturing shouts of 'Glory!' which echo and re-echo, the second and, especially the third, fainter. For about four or five seconds she seems to drop down like a person in a swoon, or one having lost all strength; she then seems to be instantly filled with superhuman strength, sometimes rising at once to her feet and walking about the room. There are frequent movements of the hands and arms, pointing to the right or left, as her head turns. All these movements are made in a most graceful manner. In whatever position the hand or arm may be placed, it is impossible for anyone to move it. Her eyes are always open, but she does not wink; her head is raised and she is looking upward, not with a vacant stare but with a pleasant expression, only differing from the normal in that she appears to be looking intently at some distant object."

George E. Butler - 1874 -- President General Conference of Seventh-day Adventist Church:

"Her eyes are always wide open and seem to be gazing at some far-distant object, and are never fixed on any person or thing in the room. They are always directed upward; they exhibit a pleasant expression... The brightest light may be suddenly brought near her eyes...there is never the slightest wink or change of expression on that account; and it is sometimes hours and even days after she comes out of this condition before she recovers her natural sight..."

G. Wall 22, M. D. - December 28, 1890:

"Mrs. Ellen White gave that triumphant shout of 'Glory! G-l-o-r-y! G-l-o-r-y!'... When she arose and informed the audience that his wife was in vision. The coming out of the vision was as marked as her going into it. The first indication that the vision was ended was in her again beginning to breathe. She drew

her first breath deep, long, and full, in a manner showing that her lungs had been entirely empty of air. After drawing the first breath, several minutes passed before she drew the second, which filled the lungs precisely as did the first; then a pause of two minutes, and a third inhalation, after which the breathing became natural. When the vision was ended...she would exclaim with a long drawn sigh, as she took her first natural breath, 'D-a-r-k!' She was then limp and strengthless."

James White - 1868 (husband) President General Conference, Seventh-day Adventist Church:

(1) "She is utterly unconscious of everything transpiring around her...but views herself as removed from this world, and in the presence of heavenly beings."

(2) "She does not breathe...during the entire period of her continuance in vision, which has, at different times, ranged from 15 minutes to 3 hours."

(3) "Immediately on entering vision, her muscles become rigid, and joints fixed, so far as any external force can influence them. At the same time, her movements and gestures, which are frequent, are free and graceful, and cannot be hindered nor controlled by the strongest person."

(4) "On coming out of vision, whether in the daytime or in a well-lighted room at night, all is total darkness. Her power to distinguish even the most brilliant objects, held within a few inches of the eyes, returns but gradually, sometimes not being fully established for three hours."

In summary, the visions that Ellen White had were typical of partial-complex seizures in that they were characterized by:

1. paroxysmal loss of consciousness
2. eyes staring upwards
3. visual hallucinations
4. affective changes
5. gestural automatisms
6. perseveration of speech
7. post-ictal-like period

#### PERSONALITY:

Ellen White's personality traits also show significant resemblance to the personality traits described in patients with temporal lobe epilepsy. The traits that seem to most commonly discriminate between controls and epileptics are paranoia, anger, dependence, religiosity, sadness, philosophical interest, and humorlessness. Blair and Fedio in 1977 described the different behavioral characteristics in patients with left versus right temporal foci. The left temporal patients were identified with a sense of personal destiny and a concern for meaning and significant behind events. Related items emphasized powerful forces working with one's life and the need for sober intellectual and moral self-discipline. This theme permeates the 100,000 pages of writing she produced which, of itself - hypergraphia - is a characteristic of patients with partial-complex seizures.

#### CONCLUSION:

It has been 66 years since the death of Ellen White. A number of Adventist scholars have recently questioned the validity of much of her writings, pointing out that much of what she wrote was actually copied from other nineteenth century

writers. There has also been recent publicity concerning the inconsistency of some of her writings with Biblical teachings. Although it would be impossible to prove retrospectively that Ellen White suffered from partial-complex seizures, it appears possible that not only her visions, but also her writing and the nature of her revelations, may reflect temporal lobe dysfunction and prove to be the explanation to the questions plaguing many scholars within the Adventist Church today.

When Ellen received her first "vision" she was distraught and uncertain as to what to do with the information presented.<sup>1</sup> In an age when there were many psychics "prophesying", in an age when the group with which she identified had fallen into disrepute following the "Great Disappointment", in this age, she recognized the risk of speaking the "truth" she felt was revealed to her. Based on her convictions that God was leading, she took the necessary risk and made her "visions" public for she and the early Adventist church were intent on finding the "Truth."

It was several months ago that I casually read Rene Moorbergen's book, Ellen G. White, Prophet of Destiny.<sup>2</sup> My reading was prompted by my general interest in Mrs. White and by my need for general information as an Elder and Sabbath School superintendent in my church. As a pediatrician with special interest in Pediatric Neurology, I was astonished to discover the similarity between Mrs. White's "visions" and a type of seizure called "psychomotor" or "partial-complex" seizure. I soon discovered the similarities between Mrs. White's personality and the recently described personality of those with this form of seizure disorder. Although educated from first grade through medical school at Seventh-Day Adventist schools, I had never before critically looked at Mrs. White's "visions", but always had accepted them on faith. With my subspecialty interest in Pediatric Neurology, the description of these "visions" had significance that might not be found by someone without a background in medicine and Neurology. As with Mrs. White, I feel a sense of responsibility to share this information.

When F. D. Nichol discussed epilepsy in his book, Ellen G. White and Her Critics,<sup>3</sup> he unfortunately omitted the one type of seizure with which her spells were consistent. There is no question that her "visions" are inconsistent with grand mal and petit mal seizures, but as the following discussion will show, her spells were consistent with partial-complex seizures in that they contained all the unique elements of this form of epilepsy. Since this form of epilepsy is always acquired and not inherited, we must first look at Ellen before her "visions" were present.

Ellen was in good health until age nine when she received a significant head injury. I quote from Rene Moorbergen and his book, Ellen G. White, Prophet of Destiny a description of this event and its immediate consequences.<sup>4</sup> "Ellen's life took a drastic turn when, on the way home from school one afternoon in Portland, Maine, alarmed by the angry shouts of a classmate, she reeled around. For a moment she stood there, transfixed, while the girl raised her hand and viciously hurled a stone at her head. The impact was so great that Ellen was thrown to the ground. Upon returning to consciousness, she found herself in a merchant's store where she had been carried by worried bystanders. Refusing to be driven home, she pulled herself up and clung to the arm of her twin sister. Bleeding profusely from a head wound, she staggered home, supported by her sister and a schoolmate, once again falling unconscious before reaching her house.

"For a full three weeks, she wavered between life and death, and when she finally regained enough strength to get around, she was burdened with a disfigured face and the after-effects of a serious head injury.

"It influenced her health to such a large extent...that it forced her to forego further schooling. In fact, she never quite got beyond the third grade...Following her misfortune, she became an avid Bible student, fascinated by the religious revival taking place around her. Being intensely religious, she did not miss a chance to associate with others who shared her interest, inasmuch as her regular friends shunned her after the accident."

Based on this description, it is clear that Ellen suffered a severe head injury using the current medical definition of "severe." A severe head injury is associated with an immediate unconsciousness lasting an hour or more or in the sudden or progressive deterioration of the level of consciousness after an initial lucid period. Abnormal neurologic signs may develop and persist for hours or days or may be permanent. This type of head injury is usually associated with extensive cerebral

edema (swelling), bruising and laceration of the brain, or an intra-cranial hemorrhage.<sup>5</sup> Approximately 10% of the people who suffer such a severe head injury develop a seizure disorder.<sup>6</sup> If a hemorrhage has occurred, this percentage is significantly higher. Mrs. White's immediate loss of consciousness followed by a lucid interval and a subsequent prolonged loss of consciousness is typical of the presence of a cerebral hemorrhage, specifically an epidural hematoma, but not diagnostic of such.

At the age of 14, Ellen had her first "dream" that seemed to have significant religious meaning for her.<sup>7</sup> At the age of 17, less than two months after the "Great Disappointment", she had her first "spell" that was interpreted by her as a "vision." Ellen is reported as having approximately 2,000 of these "visions" during her life with those in the latter part of her life mainly occurring during sleep and thus being similar to those that occurred at the age of 14.

From Rene Moorbergen's book once again, I found the following description of her spells.<sup>8</sup> "Suddenly her voice broke clear and musical, and we heard the ringing shout, 'Glory to God!' We all looked up and saw that she was in vision. Her hands were folded across her breast. Her eyes were directed intently upward, and her lips were closed. There was no breathing although the heart continued its action.

"As she looked intently upward, an expression of anxiety came into her face. She threw aside her blankets, and, stepping forward, walked back and forth in the room. Wringing her hands, she moaned, 'Dark! Dark! All dark! So dark!' Then after a few moments silence, she exclaimed with emphasis and a brightening of her countenance, 'A light! A little light! More light! Much light!'

"In vision her eyes were open. There was no breath...but there were graceful movements of the shoulders, arms, and hands, expressive of what she saw. It was impossible for anyone else to move her hands or arms. She often uttered words singly, and sometimes sentences which expressed to those about her the nature of the view she was having, either of heaven or of earth.

"Her first word in vision was 'Glory', sounding at first close by and then dying away in the distance, seemingly far away. This was sometimes repeated.

"When the vision was ended...she would exclaim with a long drawn sigh, as she took her first natural breath, 'D-a-r-k!' She was then limp and strengthless.

"She drew her first breath deep, long, and full, in a manner showing that her lungs had been entirely empty of air. After drawing the first breath, several minutes passed before she drew the second, which filled the lungs precisely as did the first; then a pause of two minutes, and a third inhalation, after which the breathing became natural.

"The time Mrs. White is in this condition has varied from fifteen minutes to one hundred and eighty. During this time the heart and pulse continue to beat, the eyes are always open, and seem to be gazing at some far distant object, and are never fixed on any person or thing in the room. They are always directed upward. They exhibit a pleasant expression...There is never the slightest wink or change of expression...It is sometimes hours and even days after she comes out of this condition before she recovers her natural sight. She says it seems to her that she comes back into a dark world, yet her eyesight is in no way injured by her visions."

From these and other descriptions in Ellen G. White, Prophet of Destiny, the following summary of events during a "vision" can be made. Mrs. White could occasionally sense she was about to have a "vision"; they began abruptly; she was unaware of her surroundings while in "vision"; and she was amnesic for events that took place in her environment. Her eyes were open and she stared upward without blinking. There was imperceptible breathing, but she did frequently repeat certain words or phrases while in a "vision" and never became cyanotic (blue). Her heart beat was normal. During the "visions" she sometimes appeared very anxious. She had various automatic-like motor movements such as the wringing of her hands. The "visions" terminated with deep sighs and the "visions" were followed by a prolonged

phase where she was lethargic, frequently couldn't see or hear, and in general, had a depressed mental status for a varying period of time.

Subsequent to the invention of the electroencephalogram (EEG) in 1929, there has been a wealth of new information related to the understanding and treatment of "epilepsy." Prior to the last twenty years, in fact, epilepsy was frequently classified into only two categories, that being big seizures (grand mal) and little seizures (petit mal). Eighty percent of all seizures were previously classified as grand mal. Today, generalized grand mal seizures constitute only 20% of all seizures, whereas, a type of seizure called psychomotor seizure, renamed in 1970 as partial-complex seizure,<sup>9</sup> now appears to be the single most prevalent form of epilepsy, constituting 42% of all the focal seizures and 26% of all types of seizures.<sup>10</sup> The older term of "psychomotor" was first used in 1902 as a label for seizures that combined psychic and motor events.<sup>11</sup> The more recent nomenclature is based on the fact that the seizure involves a focal area of the brain rather than the whole brain and presents with complex symptomatology. The complexity of the seizure is based on the area of the brain involved—the temporal lobe and the underlying limbic system—the parts of the brain that are involved in high level cerebral activity.

Partial-complex seizures occur only in a brain that has been injured and, thus, are not inherited or run in families as do other types of seizures.<sup>12</sup> In contrast to grand mal seizures, these seizures may occur quite frequently in an individual, are generally not associated with progressive neurologic dysfunction, and do not shorten one's expected life span. Although partial-complex seizures usually last only seconds to a few minutes, they very rarely may be prolonged at which time they are called "complex partial status epilepticus."<sup>13</sup>

These seizures frequently begin in adolescence and continue throughout life. They generally occur spontaneously, but stresses may precipitate a seizure. Such stresses are: psychological, hormonal changes, drowsiness, illness and sleep. Another

factor that makes these seizures "complex" is the ability of some patients to not only sense an impending seizure, but at times to be able to abort or precipitate them. I had a patient whose spells consisted of altered, but not loss of, consciousness, and a generalized "good" feeling that swept over his body. He frequently precipitated these spells by "concentrating." He nearly had a serious automobile accident secondary to a seizure that he had precipitated while driving. The near accident was enough impetus for an adolescent to stop precipitating these events, since his joy from driving exceeded his "joy" from his seizures.

Grand mal and partial-complex seizures are followed by a period of neurologic dysfunction typically manifest by headache, lethargy, or sleep, and is called the "post-ictal" period. The duration of this post-ictal phase usually varies directly with the duration of the seizure. This period essentially results from the exhaustion that has occurred in the parts of the brain that were involved in the seizure.

Grand mal seizures are frequently associated with the absence of breathing, secondary to the respiratory center in the brain and the respiratory muscles being involved in the seizure. These patients generally become somewhat cyanotic. With partial-complex seizures, breathing generally continues but may be imperceptible. Observers of Mrs. White in "vision" repeatedly emphasized that using the monitoring equipment available, a candle and a mirror, she was not breathing. Yet, she is described repeatedly as saying words or even sentences during her "visions" which can only be attributed to air passing the vocal cords which suggests she had to be inspiring air in order to be able to expel enough air to speak. Her heart beat and pulse rate were also noted to be normal so the heart was continuing to pump blood through the lungs to the rest of the body as usual. Although it is possible that something "supernatural" was taking place in that oxygenation was taking place through channels outside the lungs, the normal oxygenation of her tissues, as is documented by her normal color, and the presence of a pulse, suggest that the lungs

breathing was taking place as would be typical in a partial-complex seizure.

In common with all types of seizures is the alteration in the level of consciousness that occurs with partial-complex seizures. There are several unique characteristics of partial-complex seizures that occur during the altered consciousness and these include: eyes being open, staring, and frequently turned up, automatisms, hallucinations, and various psychic phenomena. All of these unique characteristics were present in Mrs. White's "visions."

In partial-complex seizures, the consciousness is always altered, but not always completely lost. It is clear by the previous descriptions of Mrs. White's "visions" that she had lost consciousness during these spells. She was unresponsive to various forms of external stimuli and was amnesic for the events which occurred in her environment during the period of the "visions." It needs to be emphasized that the hallucinations that may be seen during a partial-complex seizure can be remembered after a seizure and often can be described in vivid detail. The amnesia that is characteristic of seizures is for the events occurring outside of the seizure itself. As is also characteristic of partial-complex seizures, Mrs. White's eyes were open, staring, and described by some as rolled up.<sup>14</sup>

One of the most interesting and constant features of partial-complex seizures is the presence of various automatic purposeful or nonpurposeful movements called automatisms. These automatisms frequently involve the alimentary tract and include chewing movements, lip smacking, tongue movements, or swallowing movements. The other characteristics of automatism involve the motor system and are called "gestural automatisms." The most typical of these are wringing of the hands, fumbling with a button or other object, closing the hands, scratching the head, rubbing the nose, or other purposeless and graceful movements.<sup>15</sup> Mrs. White is described as wringing her hands, having slow graceful movements of the shoulders, arms and hands, and walking back and forth.

The automatisms with this form of epilepsy may be complex as well as simple, as described above. A host of complex acts have been described. A petroleum geologist could continue drawing at his drawing board or eating his meal, though more slowly, during his seizure. An organist is described as "during Christmas services, switched from playing a hymn to jazz and went back to the hymn at the end of his seizure. A young woman always recited the 'Ave Maria' during her automatisms. A hospital janitor bobbed light bulbs in a bucket of water and, on another occasion, dumped mop water over the hands of surgeons scrubbing at a sterile sink."<sup>16</sup>

Another typical automatism involves speech and manifests itself as perseveration of speech - repeating the same words or phrases over and over again. Examples of such perseverations in my practice have included, "Mommy, pick me up" and "I want a cookie." These two patients would start saying these phrases and continue saying them over and over again when their request had been granted. This abnormal speech was associated with other more typical seizure activity. The words Mrs. White characteristically repeated were "Glory", "Glory to God", "light" and "dark."

Hallucinations are another typical component of partial-complex seizures and may involve all the senses, but are typically either auditory or visual. "An important point in the nature of this altered content of consciousness is that it constitutes an intrusion upon the patient's onflowing stream of awareness. No matter how vivid, complex or 'real' the ictal experience, the patient recognizes that it is an experience imposed upon him. His consciousness is 'split', and he can still remain the objective observer, the bystander witnessing these curious events."<sup>17</sup>

Illusions, distorted perceptions of ongoing stimuli, as well as hallucinations, sensory perceptions in the absence of a stimulus, may be present.



"Seizures arising in the primary visual cortex produce crude sensations of light or darkness - for example, small circles or ellipses of white or colored light. In contrast, formed visual hallucinations may range from simple, static, monochromatic but recognizable objects, to intricate, multicolored progressing scenes...Occasionally a seizure may arise in primary visual cortex and subsequently spread into association cortex with a concomitant shift from unformed to formed hallucinations."<sup>18</sup> Since it is the patient's own brain that is "short circuiting" and producing the illusion or hallucination, the content is frequently manifestations of previously stored information or is given meaning based on the content of the patient's consciousness. Since the patients who have partial-complex seizures tend to be religious, the hallucinations frequently have a religious significance to them.

A thirteen year old adolescent whom I follow for his partial-complex seizures recently glanced at a book his sister had brought home on Satanism and the occult. Shortly after looking at this book, the hallucination that occurred during his seizure consisted of seeing a ring of fire in vivid color with several human-like figures on the outside of this ring. The human-like figures were devoid of faces. These forms began walking through the ring of fire towards him with their arms gradually being raised as if they were to strike him and kill him when close to him. The patient stated that he could feel the heat from the fire and was described by the mother as screaming in terror with beads of sweat over his entire body as the seizure ended. When describing the hallucination to me in my office, he could vividly recall the entire episode and was himself convinced that the phenomenon was real and that the devil was "out to get him." I had to read him descriptions of other people's hallucinations that occurred with seizures before I could convince him that this phenomenon had not been real but part of his seizure.

The other unique characteristic of partial-complex seizures is the various psychic phenomena that can occur with the seizure: Essentially, all forms of bizarre behavior have, at one time or another, been attributed to partial-complex seizures. "Fear was the first ictal emotion recognized and appears to occur most frequently. In some instances, the fear is intense and patients use terms such as 'terror', 'panic', 'a feeling of impending disaster...a feeling that I'm going stark, raving mad'...Some patients express a fear of dying...Other patients experience less intense feelings, which may range from a sense of uneasiness or apprehension to anxiety."<sup>19</sup> Pleasure, depression, eroticism, and anger are other psychic phenomena that may occur with the seizures.

"In certain instances, hallucinatory experiences acquire an affective coloring. Maclean (1952) has described a man 'who senses in his stomach a feeling of fright that carries with it the conviction that someone is standing behind him. If he turns his head to see who it is, the feeling of fear becomes intensified.' Williams (1956) described an architect with an even more complex hallucinatory experience: He sees a man and two smaller figures on a frozen pond, around which he is skating. He experiences fear which concerns the figures, and feels he is 'in the grip of some power I cannot escape.' The figures are speaking quietly together about his fear, and he feels that he should get closer to solve the problem but cannot do so since he is skating in a circle. He then has a major convulsion.

"In other instances the ictal emotion may attach itself to an otherwise neutral sensory perception, giving the experience a totally different subjective quality. Two patients said that when their attacks began, any object at which they were looking, for example, a telephone or a chair, suddenly assumed a threatening or malevolent quality which each recognized as totally inappropriate. If they shifted their gaze to any other object in the environment, it did not seem threatening and the sensation of fear would diminish. However, returning the gaze to the original

object would result in an intensification of the fear which in each patient culminated in a loss of consciousness automatism."<sup>20</sup>

From the preceding discussion one cannot avoid coming to the conclusion that Mrs. White's "visions" were at least consistent with what is now known as partial-complex or psychomotor seizures. I believe the quoted examples of the unique features of these seizures emphasize the complexity of the seizure manifestations and the confusion and concern that would result if the patient were unaware that these were seizures. What is of as much significance as the similarity between her "visions" and seizures is the presence of Mrs. White's personality characteristics, typically seen in patients with this form of seizure disorder.

Among neurologic diseases with confirmed anatomic localization, temporal lobe epilepsy has been most frequently associated with functional psychiatric disorders. Although psychiatric disorders are more frequently seen in these patients than in the normal population,<sup>21</sup> they are still relatively rarely present in these patients. What is of more interest has been the recent documentation of a specific profile of psychosocial aspects of behavior very frequently seen in these patients. In a recent study done at the Clinical Neurosciences Branch of the National Institutes of Neurological and Communicative Disorders and Stroke at the National Institute of Health,<sup>22</sup> forty-eight patients were studied and demonstrated that not only did patients with temporal lobe seizures have characteristic personality traits, but that it was possible to distinguish certain personality traits characteristic of right temporal lobe dysfunction from left temporal lobe dysfunction. Following is a list of all the traits frequently seen in patients with partial-complex seizures, but certainly not all the patients have all the characteristics:

1. Emotionality - deepening of all emotions, sustained intense affect
2. Elation - euphoria - grandiosity, exhilarated mood
3. Sadness - discouragement, tearfulness, self-depreciation

4. Anger - increased temper, irritability
5. Aggression - overt hostility, rage attacks, violent crimes
6. Altered sexual interest - hyposexualism, loss of libido, etc.
7. Guilt - tendency to self-scrutiny and self-recrimination
8. Hypermoralism - attention to rules with inability to distinguish significant from minor infractions
9. Obsessionalism - ritualism, orderliness, compulsive attention to detail
10. Circumstantiality - loquacious, pedantic, overly detailed
11. Viscosity - stickiness, tendency to repetition
12. Sense of personal - events given highly charged, personalized significance, divine guidance ascribed to many features of patient's life
13. Hypergraphic - keeping extensive diaries, detailed notes, writing autobiography or novel
14. Religiosity - holding deep religious beliefs, often idiosyncratic
15. Philosophical interest - nascent metaphysical or moral speculations, cosmological theories
16. Dependence, passivity - cosmic helplessness, "at hands of fate"; protestations of helplessness
17. Humorlessness, sobriety - overgeneralized ponderous concern; humor lacking or idiosyncratic
18. Paranoia - suspicious, overinterpretative of motives and events

The above traits that most commonly discriminated the control group from the epileptic group were paranoia, anger, dependence, religiosity, sadness, philosophical interest and humorlessness. I emphasize once more that not all these tendencies were seen in all patients.

What is of great interest in this research is the finding that patients with pathology in one temporal lobe differ in their personality traits from those with pathology in the opposite temporal lobe. Patients with pathology in the right

temporal lobe were distinguished by items stressing externally demonstrated affects. This was manifest in unusual sexual attractions, remonstrations of helplessness, periods of sadness, emotional arousability or moralistic fervor. Over-concern with details and orderliness also characterized the right temporal epileptic group more than the left."<sup>23</sup>

"Left temporal patients were identified with a sense of personal destiny and a concern for meaning and significance behind events. Related items emphasized powerful forces working with one's life (paranoia) and the need for sober intellectual and moral self-scrutiny (humorlessness, conscientiousness)."<sup>24</sup> Strikingly absent are many of the characteristics seen overall in patients with partial-complex seizures and, in particular, those seen in patients with right temporal lobe dysfunction. As equally striking, however, is the similarity between Mrs. White's personality and the description given to patients with left temporal lobe dysfunction.<sup>25, 26, 27</sup>

Adventists frequently point to the massive amount of writing Mrs. White did as evidence of divine guidance. She lacked the education that seemed necessary to author so many articles and books. As is pointed out in this recent research, even her extensive writing turns out to be a characteristic behavior of patients with partial-complex seizures.

During the last ten years, the puzzle of Ellen White has slowly been pieced together. Ron Numbers discovered, in much the same fashion as I, that Mrs. White's health message appeared to be the health message of others of her day with whom she was probably familiar.<sup>28</sup> Jonathan Butler recently discovered that Mrs. White's ideas related to eschatology were heavily flavored by the contemporary emphasis of the Protestant church of her day.<sup>29</sup> With the information contained in this article, the puzzle takes on a more whole and complete appearance. It appears distinctly possible that the brain injury Ellen received as a child resulted in the development

of a seizure disorder and a personality type characterized by a deep interest in religion. It was less than two months after the "Great Disappointment" that she had her first recorded daytime "vision" and the lights she saw in her "vision" took on significance because of her association with the small group that survived the "Disappointment." Not even the medical authorities of her day were aware of this type of seizure disorder and knowing these "spells" were inconsistent with self-hypnosis, mesmerism, hysteria, or cataplexy, they were interpreted as supernatural. Mrs. White seemed unaware that the content of the visual hallucinations she thought were "visions" were related to current events and opinions of her day. Unaware that her "visions" were part of a seizure, unaware that her personality traits and deep interest in religion were produced by her injury, unaware that her ability to write was itself a manifestation of her illness, she did what any honest God-fearing person would have to do in a similar situation - she shared them with others and it was these others who labeled her as a "prophet" and made her the center of the developing Seventh-Day Adventist Church.

The long-term significance and consequences of this information will be determined, not by medical personnel such as myself, but by the theologians in our church. These issues raise the distinct possibility that the Seventh-Day Adventist Church may now be facing another "Great Disappointment."

### Bibliography

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