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## A Longitudinal Study of the Behavioral Patterns of an Epileptic Child

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A LONGITUDINAL STUDY OF THE BEHAVIORAL  
PATTERNS OF AN EPILEPTIC CHILD

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A Thesis  
Presented to  
the Graduate Faculty  
Central Washington State College

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In Partial Fulfillment  
of the Requirements for the Degree  
Master of Education

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by  
Ethel M. Smith  
August, 1967

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APPROVED FOR THE GRADUATE FACULTY

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Dohn A. Miller, COMMITTEE CHAIRMAN

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Darwin J. Goodey

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John A. Schwenker

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## CHAPTER I

### THE PROBLEM AND DEFINITIONS OF TERMS USED

Within recent years many advances have been made in the diagnosis and treatment of convulsive disorders. With proper therapy, most patients with epilepsy can live essentially normal lives. The most serious hazard of an epileptic disorder, in many instances, is not the seizures, per se, but the associated emotional disturbances which may develop in a youngster as the result of mismanagement at home, in the school, or in the community.

"Because children spend much of their time at school, the teacher can play an important role in helping the epileptic child cope with his problems," states Livingston (16:24-25).

The study of an individual child may reveal patterns of behavior responses to social situations, strengths and weaknesses, reactions to a particular subject, e.g. arithmetic, child's self-concept, or numerous other things.

Repeated reading of daily records of the individual study permits the teacher to plan activities that will help to ease social situations, strengthen weaknesses, and at the same time maintain the strengths, and help to build self-concept by giving opportunities for success.



## I. THE PROBLEM

The purpose of this study was two-fold. The first objective was to review research in the area of epilepsy to discover how epilepsy might influence the emotional and social behavior patterns of the child. The second objective was to use written excerpts from a daily record of behavior accompanied by an analysis based on information obtained from library research.

## II. DEFINITIONS OF TERMS USED

For the purpose of this study, the following terms were defined as stated below.

### Exceptional Child

That child who deviates from the average or normal child in mental, physical, or social characteristics to such an extent that he requires a modification of school practices or special educational services in order to develop his maximum capacity.

### Epilepsy.

A disorder of the brain expressed as a paroxysmal cerebral dysrhythmia.

### Paroxysmal Cerebral Dysrhythmia

Sudden or convulsive brain rhythm disorder.

## Types of Epilepsy

Grand mal. The true convulsion in which the individual falls and loses consciousness.

Petit mal. The individual may lose consciousness only momentarily. The eyes stare and the eyelids twitch, but there is no convulsion of the body.

Psychomotor. One may have short periods of amnesia. He may stare, mumble, or drop things.

## Prodromata

A medical term for the preliminary signs or premonitory symptoms of a definite disease.

## Aura

Subjective feelings preceding an attack of epilepsy; a shadow body alleged to be visible to certain individuals who have epilepsy.

## Epileptic equivalents

Miscellaneous symptoms which are considered epileptic in nature: headaches, inappropriate laughing spells, emotional instability.

## Fugue

A period of loss of memory when individual disappears from his usual haunts.

Anonism

Producing the sex orgasm by manipulation.

Anaphrodaisic

That which is capable of lessening sexual desire.

Medico-legal

Problems where medical knowledge is necessary to clear up the legal situation.

### III. NEED FOR STUDY

Most teachers want to understand children's behavior. Many have tried keeping records of their behavior in an effort to gain insight into why they do what they do.

Keeping records is the gathering of clues, and the teacher must learn to recognize the significant ones. Knowing what is significant usually makes the teacher more aware of the scope of the children's behavior.

One encounters difficulties in record keeping such as evaluating ways of behaving. There are no "norms" of behavior which one can use in comparison. A type of behavior in one child may indicate that he is finally asserting his rights, and in another, an act of aggression.

The teacher's set of living standards colors her evaluation of behavior. She must evaluate his behavior in terms of his experiences, which are often beyond his control.

Records, if dated, permit their study in sequence for definite patterns of behavior which might be affected by happenings in the home, school, or to the state of health of the child. Cohen and Stern (8:5) reported:

Children communicate with us through their eyes, the quality of their voices, their body postures, their gestures, their mannerisms, their smiles, their jumping up and down, their listlessness. They show us by the way they do things as well as by what they do, what is going on inside of them. When we have come to see children's behavior through the eyes of its meaning to them, from the inside out, we shall be well on our way to understanding them. Recording their ways of communicating helps us to see them as they are.

Studying the individual pupil is a matter of a frame of mind--a way of looking at pupils objectively, not subjectively. Each child is exceptional, in that he is exceptionally precious to someone, and therefore deserves exceptional help and attention.

## CHAPTER II

### REVIEW OF LITERATURE

The purpose of the review of literature was to do library research related to epilepsy, to determine the existence of ideas of origin and early treatment, advanced ideas of origin and treatment, description of seizures, a concept of epileptic personality, and behavior difficulties.

#### I. IDEAS OF ORIGIN AND EARLY TREATMENT

Throughout the centuries epilepsy has occupied a position of prominence, if one used the volume of writings devoted to epilepsy by ancient writers as a basis for judgment.

This fanciful story related by Clendening (7:3-6) relates clearly what could have happened to an epileptic.

In the dawn of time on a river bank in the green land! Caves, piles of rudely fashioned stones, skins hung up to dry--the litter of humans.

Htebh stood at the cave mouth, sadly gazing at his son. The youth was in the throes of his terrible malady again.

He had felt it coming on. That was the strange thing about this demon that possessed him. It gave warnings. The boy had known the fit was coming and had staggered up to the plot of grass under the great tree. He had learned from experience that it was safer for him to be on the grass away from stones or logs.

There he lay panting now, for the fit had passed. First he had emitted a great shout--a tortured cry of agony as his head was thrown back, his arms and legs were drawn into convulsion after convulsion which racked him, his eyes turned up and the froth formed in his mouth.

The women came crowding up to the mouth of the cave. Most of them gave one glance and went back to their work, for the wretched boy's attacks were a familiar sight by this time. Only his mother sat down and, covering her face with her hands, rocked herself to and fro, moaning.

One of the boy's brothers, coming up the steep slope from the river below, glanced at the quivering figure under the tree and laughed derisively. But Htebh rebuked him.

"Fool! And of a fool's litter!" he cried. "Do you wish to court devils? The fiend that inhabited thy brother may spawn and send some of his brood into thy head."

The awesome warning served to quiet the scoffer.

The grandmother came out of the cave and waddled over to the prostrate figure. Taking out of her bag a sharpened fish-bone, she grasped the lad's arm and thrust the point of the bone into one of the veins that could be plainly seen beneath the skin. The blood flowed freely.

Htebh made no sign at this, nor any attempt to stop her. But they had tried that before. The devils which caused this malady did not flow out of the body with the blood.

"Go fetch the medicine man, Astur," he commanded the youth who had laughed.

By the time the priest and medicine man with his train of assistants could be seen coming up the river path, the sick boy was to all outward appearances perfectly well. His mother sat over him crooning and rubbing his forehead.

"The demon still tortures my son," Htebh announced to Astur.

The medicine man frowned portentously at this, as if to rebuke boy and demon both.

"I have tried everything," Htebh continued. "The demon resists all my magic. Do not forget that I have tried the incantation of the seven fishes, and still the demon returns. His blood has flown over and over again, and still the demon does not leave him."

"Aye," said the medicine man, solemnly, "these devils which cause convulsions inhabit the head." Here the priest tapped his forehead. "We must give them a way to get out. We must make an opening there."

Htebh nodded in agreement and acquiescence.

"Send for Achot, the trephiner," commanded the priest.

"I know these demons," explained the medicine man while they awaited the arrival of the trephiner. "When I was young, my father pointed out to me one of our tribesmen who had been in the great battle with the warriors of the Folk Beyond the East. In the battle he had been struck on the right side of the head by a spear. The spear was flung with great force and broke the bone. But on the point of that spear the medicine worker of the Folk Beyond the East had witched a demon, and it entered the head of our tribesman and he suffered as does your boy. Hy!" Here the medicine man's voice sunk to a whisper. "Do you know something else that was strange about that demon? My father pointed it out to me and I have seen it since with my own eyes. Though the hole was in the right side of the head, it was the left arm and leg that was convulsed. These are subtle demons. They roam through all parts."

The trephiner was a man of venerable appearance. He had been brought up to do his work. His father and his father's father had been trephiners before him.

With him had come also the high priest and the headman of the tribe.

The patient was laid out on the ground. His hands and feet were bound with thongs. His head was laid on a stone.

The priest stood at his head. A circle of priests and tribesmen sat around the prostrate form. The medicine man walked around and around inside the circle chanting a religious hymn. The circle of helpers rocked back and forth emitting long-drawn wails for help.

The trephiner laid out several sharp-edged flints on a flat rock. He put some soft dried moss beside him, and, speaking gently and encouragingly to the boy, he made a swift cut through the skin of the scalp. He mopped the blood up with his dry moss and put his hand out for a glowing brand of wood which his assistant handed him from the fire. He seared the edges of the scalp wound, and the victim for the first time let out a long wail of pain. The incantations rose in volume.

Exposing the smooth plate of bone, the trephiner now took one of his sharp-edged flints and began to scrape the bone. The victim writhed a little from time to time, but did not complain much.

A priest came forward and put a cup of mistletoe wine to the boy's lips. He drank several cups during the operation, so that by the time the opening was completed, he was snoring happily.

The surgeon packed wet moss over the wound and left him sleeping in the cave. For several days he tossed with fever. Matter came running from the wound. The priest said it was the sign the devil inside was dying. Wine was poured on the wound. The old grandmother brought herbs from the woods to quiet him.

Finally he was able to be up and about. And, sure enough, the demon did not trouble him for all of that summer and the winter following and the next winter.

But then the demon returned. He had another convulsion, and the trephiner, with the help of the priest, made a hole on the opposite side of his head. For awhile again there was no falling sickness, and then the boy disappeared. Search of the countryside failed to find him. Weeks later his body was found at the foot of a cliff. Probably, they said, the demon returned and attacked him as he was standing on the edge, and in his convulsion he threw himself over and was killed.



Skulls with round trephine openings in them have been found in prehistoric human excavations all over the world. These holes were not made in the skull after death, because many of them show, around the edges of the opening, evidence that the bone has grown in an attempt at healing.

Clendening describes:

Trepanning or trephining the skull was an operation frequently performed 10,000 years ago in Neolithic times, especially in Western Europe and Bohemia. Evidences of its early practice are also found in Bolivia, Peru, North America, Mexico, and Central America, though none of these evidences are of Neolithic age . . . . Broca decided that prehistoric surgical trephining was performed for the relief of certain internal maladies. He suggested that it was performed on young epileptic or mad persons to rid them of the 'genius,' the 'demon' causing the dreaded symptoms.

This primitive operation of trephining represents one of the first upward steps we can discern in the development of scientific medicine.

Lennox and Lennox (18:13) give the view of Parocelsus who lived during the sixteenth century:

The disease (epilepsy) exists not only in men but in all living creatures; the latter fall down in paroxysms in the same way as man. Some species of animals suffer from the disease by heredity and being thus pervaded with it, none of their kind is without it, as can be seen in the squirrel and the lion, which become ill without cause . . . . Earthquakes and falling sickness have the same causes, for the motion of the earth is also the motion of man, and is experienced by all which grows on earth.

Conflicting ideas of the origin and treatment of epilepsy have been prevalent since the disease was first noted.

"It appears to me," said Hippocrates of the sacred disease, epilepsy, "to be nowise more divine nor more sacred than other diseases, but has a natural cause from which it originates like other affections."

During the Dark Ages, epileptic seizures were regarded as visitations supernatural in origin.

Pfeiffer (29:149) states:

In earlier times such patients might have been found among soothsayers and priests, exorcising demons and hurling inkwells at devils. Their fellow men often shared the belief, and referred to epilepsy as the 'sacred disease.' As a rule, epileptics were hated, feared, beaten, tortured, driven from village to village. Most epileptics were thought to be possessed or bewitched rather than divinely inspired.

Rapport and Wright (32:43) elaborate:

The devil was still the cause of the disease. But they had located the devil. The symptoms of epilepsy or headaches or insanity were those belonging to the head. The devil who caused this sort of mischief was in the skull. Therefore, make a hole there to drive him out.

## II. ADVANCED IDEAS OF ORIGIN AND TREATMENT

Treatment is noted by Krantz and Carr (17:650):

Paracelsus described epilepsy as the "disease of lightning" as the individual was struck down, as it were by a bolt from the sky.

The first step which placed the treatment of the disease on a controllable basis was founded upon an

erroneous concept with regard to its etiology. Sir Charles Locock, in 1857, gave large doses of bromides to fourteen epileptic patients based upon the premise that epilepsy was due to anionism, and bromides had been established as eliciting an anaphrodisiac effect. In nearly all of his cases, bromides diminished the frequency of the epileptic seizures and also their severity. From that day to 1912, no real advance was made in the therapy of epilepsy.

Brown (5:169) gives a modern view of the treatment of epilepsy:

In the treatment of epilepsy anti-convulsant drugs are given and, formerly, these were substances such as the bromides or pheno-barbitone which acted by virtue of their general sedative effect causing the patient to be sleepy at the same time, but today increasing knowledge has led to the use of substances which are anti-convulsant whilst having very little sedative effect.

Individual attention must be given when prescribing and administering medication to an epileptic. Individuals respond individually to the same drug, and it is necessary to find out which drug is best for the individual patient as well as how the doses should be distributed throughout the twenty-four hours.

Strauss (3:1128) states:

While barbituates have no beneficial but more frequently a contrary effect on the behavior of these children, sometimes treatment with Dilantin, and frequently treatment with Dexedrine Sulfate or Benzedrine are of great value.

### III. DESCRIPTIONS OF SEIZURES

The dysrhythmia of epilepsy is associated with seizures composed of one or more of the following recurrent and involuntary phenomena. Lennox and Lennox (18:43) describe them as:

1. Loss or derangement of consciousness or remembrance (amnesia).
2. Excess or loss of muscle tone or movement.
3. Alternation of sensation, including hallucinations of special senses.
4. Disturbances of the autonomic nervous system with resulting vegetative and visceral phenomena of various sorts.
5. Other psychic manifestations, abnormal thought-processes or moods.

Some or all of the five manifestations may make up a seizure pattern that can be given an identifying name.

The patterns have been separated on the basis of size or severity: big or little, major or minor, grand mal or petit mal.

Seizures may vary from a momentary minute disturbance of consciousness to an attack of wild fury.

Attacks are often preceded by some kind of warning known as an "aura." This may take the form of dizziness or discomfort in the abdomen, lasts but a few seconds, and does not usually give the patient time to prepare for the attack.

Lennox and Lennox (18:174-175) clearly describe the warnings of a seizure:

Warnings of a seizure have been separated into two groups on the basis of the time factor: prodromata precede the seizure by hours or even days; auras precede it by seconds or minutes. Prodromata are the rumblings and earth tremors, the wisps of smoke from a volcano cone that reflects a deep uneasiness in the bowels of the earth. The aura is the roar that announces the eruption is at hand.

#### IV. TYPES OF EPILEPSY

Garrison and Force (16:416) define and describe the four main clinical types of epilepsy.

Type 1. Grand mal. This is the well-known generalized type in which the individual loses consciousness, his muscles tighten, and he falls wherever he happens to be as if someone has hit him. Saliva appears on his lips. He twitches violently for a minute or two and then usually lies relaxed.

Type 2. Petit Mal. Petit mal seizures occur much more frequently. No convulsions are involved, although there is a momentary loss of consciousness. The seizure consists of a brief stare and may be accompanied by a rhythmic twitching of the eyelids or eyebrows.

Type 3. Psychomotor. This is the most difficult type to diagnose, since the attacks vary greatly from individual to individual. The mild forms appear similar to petit mal. Amnesia is the outstanding characteristic of this type, although the patient appears to be conscious at the time of the attack. Most such attacks last only a short time, although with a few individual cases they continue longer.

Type 4. Jacksonian. This type is a modified grand mal. During the first part of the seizure the individual remains conscious but there is a twitching or numbness of one leg or an arm or side of the face or trunk, and this gradually spreads so as to include the greater part of the body. Consciousness is often lost during the later stages of the attack.

It has been estimated that one family in fifty will have at least one member afflicted by epilepsy. Seizures may be a symptom of a physical disorder such as injury to the brain or are associated with acute infections and fever. Such seizures are known as symptomatic epilepsy in contrast with idiopathic epilepsy, a condition in which there are repeated seizures without a known cause.

#### V. CONCEPT OF EPILEPTIC PERSONALITY

In a discussion concerning the concept of epileptic personality, Strauss (3:1125) explains:

The concept of epileptic personality is used in two meanings. Some psychiatrists define as an epileptic personality a person with certain character traits which are, in their opinion, part of the constitutional make-up of that patient in the same way as is his supposed constitutional tendency to develop a convulsive disorder.

The second application of the concept is a purely descriptive one. Here one speaks of an epileptic personality in the sense that particular personality traits are found more or less regularly in epileptic patients without postulating anything about the origins of these traits.

The epileptic is affected greatly by the social situations he has to face. He often has difficulty getting a job, even one that is not a danger to himself. People tend to be afraid of him, and this he senses quickly. He feels that he is not a full member of society, whilst being in all other respects a normal person. This may be a cause of the so-called epileptic personality.

Garrison's and Force's (16:415) description of personality characteristics is:

They reacted in various ways, some tending to withdraw, others to behave aggressively, the majority following a middle course. The pattern seemed to be dictated less by the common handicap of epilepsy than by their own personality variations.

In response to the limitations associated with their handicap, the children appeared to follow no single pattern, which might be characterized as a typical personality pattern.

Wilson (11:481) concurs:

The personality disorders which sometimes accompany epilepsy are as much a consequence of social stigma and the frustrating environment as they are constitutionally determined.

## VI. BEHAVIORAL DIFFICULTIES

Mikesell (21:670) explains the reason for behavior disorders in epilepsy:

For a long time, severe personality or behavior disorders have been recognized as a sequel of encephalitis or as a manifestation of epilepsy.

Recent investigations of the electrical potentials of the brain have uncovered epileptic-like and other types of dysrhythmia in both children and adults with pronounced behavioral abnormalities where there was no other clinical evidence of epilepsy or other brain disease.

The behavioral difficulties of the epileptic have a variety of commonality. Many epileptics are slow in their reactions, may be self-centered, may display a hypochondria, or may be irritable and become violent on slight provocation.

They may learn slowly, have particular difficulty with mathematics, be retained in school, and be considered mentally defective.

In speaking of abnormal behavior, Ramey and O'Doherty (31:233) say, "The degree of abnormality appears to be related roughly to the intensity of the disordered behavior."

Naughty behavior in children may have a psychological basis, or an organic basis, or may be a result of the combination of both.

Naughty behavior may follow injury to the brain. The injury often produces a change in the personality--a person with a mild, kindly disposition becoming irritable and quarrelsome.

English and Pearson (12:259) explain:

Children who have suffered from a cortical disease or injury, particularly if it involves the pathways from the frontal lobes, are less able to impose and in many cases are incapable of imposing any voluntary control over the expression of hostility, rage, and anger. A similar deficiency of control exists in those individuals whose brain physiology is disordered, as in cases of epilepsy.

Penfield and Jasper (26:841) explain:

Among patients who have large areas of abnormality of one hemisphere, abnormality of behavior may appear, together with advancing mental retardation. The behavior abnormality is often a more important complaint than the seizures themselves.



During an attack the epileptic may do any or all of the following: break dishes, destroy furniture, become angry and start to throw things, or injure someone.

Incidents are known in which persons with such attacks have committed murder and upon recovery from the attack will not remember what they have done.

Robinson and Robinson (33:119) view the behavior of some young children:

Children of three or four are sometimes seized with attacks of violent shrieking, desperate stubbornness or furious rage, when they bite, kick, and do all the destruction they can; these seizures, which are a sort of vicarious epilepsy, come on periodically, and either pass in the course of a few months into regular epilepsy, or may alternate with it.

Lennox and Lennox (18:433) discuss the question of punishment:

The question of punishment for disobedience and misbehavior is complicated by various factors that concern the responsibility of the child for his badness, his reactions to discipline and to the manner of its imposition.

Lennox and Lennox (18:436) summarize behavior:

The behavior of an exceptional child like that of any other is a sensitive barometer of the emotional climate which surrounds him in his immediate environment. The climate like that of any other child, depends essentially on the personalities and attitudes of his parents and on their understanding of his feelings and his needs . . . .

## VII. SUMMARY

This section of the thesis has reviewed the results of research concerning the epileptic child. A resume has been made of early ideas about the cause and treatment of epilepsy, more modern treatment and diagnosis, description of seizures, the concept of the epileptic personality, and behavioral difficulties. Knowledge of these facts is necessary to determine the existence of patterns of behavior which are characteristic of an exceptional (epileptic) child.

## CHAPTER III

### CASE STUDY AND ANALYSIS

Navarra (24:1-2) states the need for the individual study of a child:

The complicated process by which children learn even the most basic concepts is far from being understood. This is an area in which there is an urgent need for data, since a preeminent task of education is the formation of concepts. More specifically there is a need for data concerning the way an individual child learns--since the acquisition of concepts is, in the last analysis, an individual affair.

This section consists of an analysis of certain material to determine the existence of patterns of behavior which are characteristic of an exceptional (epileptic) child. The material consisted of a daily record of behavior of an epileptic child, covering a period of one school year (180 days). Written excerpts from the daily record of behavior were analyzed, based on information obtained from library research.

The patterns in the sequence of records were selected in the following manner: (1) four consecutive days using a different class and time for each day, (2) art at varied times during the year, (3) end of the week days, Thursdays and Fridays, and (4) physical education at varied times. The purpose of selecting patterns in this manner was to give an

overall view of behavior during various classes, activities, times of the day, and particular days.

### I. BACKGROUND INFORMATION

To furnish a background on the child written up in the records, the following information is given.

The mother reported a difficult pregnancy terminating in delivery of the child by Caesarean section. Mary had convulsive seizures shortly after birth. Her difficulties were diagnosed as epilepsy at a very early age.

Medication was administered early, causing the child to be "dopey" most of the time, as stated by the mother. During this period the child was pretty much "the ruler of the home." She was not disciplined in any sense of the word.

At the age of four and one-half years, another diagnosis was made which resulted in minimizing her medication. At the same time the parents were advised to assume a more forceful role in managing the child. The diagnosis showed the E.E.G. to be abnormal and characteristic of epilepsy.

Mary wet herself frequently, about every fifteen minutes until the age of four and one-half years. This tendency to wet has all but disappeared except on one occasion. There is a possibility that she had a petit mal seizure at that time.

Mary's unsatisfactory behavior has caused her to be taken out of nursery school and several Sunday schools.

Seizures were later classified as grand mal. She was under medication and had no seizures in school. The medication was taken each morning.

In order to see some of Mary's characteristics at a glance, a brief summary is given below.

#### Physical

Average weight and height  
Clumsy  
Poor coordination  
Has allergies  
Normal vision and hearing

#### Social

Insecure in relationships with peers  
Withdrawn  
Unpopular with other children  
Inept in social situations

#### Emotional

Hostile  
Aggressive  
Unsatisfactory behavior during pre-school days  
Anxious and insecure, easily frustrated

#### Intellectual

Inconsistent performance  
Functioned at borderline level on all intelligence tests  
Unable to carry out any commissions asked of her on standardized tests  
Poor attentional controls  
Intellectual potential considered higher than functional level measured at time of test  
Cannot abstract  
Lacks concentration  
Actual school achievement ranged from barely average to failing

## II. EXCERPTS FROM DAILY RECORD AND ANALYSES

Date: September 9  
Class: Seatwork  
Time: 9:00 a.m.

Mary came into the room after the other pupils were already in the room and some were seated. She dawdled while hanging up her sweater and hesitated before sitting down. While the teacher was preparing the attendance slip, Mary went back to the coat closet twice, seeming to be unsure of why she went.

During seatwork explanations, Mary kept standing up and looking around the room. She never asked questions concerning the work to be done while such questions were being answered. She waited until class work began, then asked to have the work explained. While individual explanations were being made just for her, she continually moved her body, arms, and legs. She was unable to be attentive and quiet long enough to do her work, but seemed compelled to keep moving around the room.

Analysis

Lennox and Lennox (18:174) state:

Warnings of a seizure have been separated into two groups on the basis of the time factor: prodromata precede the seizure by hours or even days; auras precede it by seconds or minutes. Prodromata are the rumblings and earth tremors, the wisps of smoke from a volcano cone that reflect a deep uneasiness in the bowels of the earth. The aura is the roar that announces the eruption is at hand.

Date: September 10  
Class: Reading  
Time: 9:00-10:15 a.m.

Mary started the day with a boisterous entry into the classroom. She slammed the door as she came in, seated herself noisily, and started talking loudly. The teacher stopped what she was doing and waited for her attention. Mary sensed the reason for the teacher's quietness, hesitated, then stood up and let her seat drop, making a loud noise. As this action was ignored, Mary remained quiet until the teacher was busy with a reading class.

Again Mary came up for a separate explanation of what she was to do until she came up to read. The teacher asked her to be seated until she had finished with the present reading group. Mary was not used to waiting for help, so she showed her irritation by stamping her feet all the way to her seat.

Her participation in her reading class consisted of reading a short paragraph in a monotonous tone. She was unable to answer any questions concerning what she had read.

### Analysis

According to Mikesell (21:670):

For a long time, severe personality or behavior disorders have been recognized as a sequel of encephalitis or as a manifestation of epilepsy. Recent investigations of the electrical potentials of the brain have uncovered epileptic-like, and other types of dysrhythmias

in both children and adults with pronounced behavioral abnormalities where there was no other clinical evidence of epilepsy or other brain disease.

Date: September 11  
Class: Following a recess period  
Time: 10:25 a.m.

Mary had this experience with another child at recess. She didn't want to share the room ball so that it could be used in a game. The playground teacher had settled the argument by insisting that both girls use the ball. This wasn't to Mary's liking so she walked away and wouldn't play at all.

When the bell rang, signalling the end of the recess period, Mary decided to stay outside, but the playground teacher sent her into the room. Mary showed her anger at being sent in by yelling and crying loudly.

Her teacher asked that she sit down quietly and rest. As she started to sit down, she picked up her desk, which was on wooden glides, and let it drop with a loud bang. At this, the teacher walked back to her, placed her hand on Mary's head, and asked her quietly to please rest.

The rest of her actions of the day were duplicates, in a manner, of those just described.

### Analysis

Penfield and Jasper (26:502) write that psychotic states are clearly the result of the pathological effect



of a series of seizures. The state that developed was the result of some effect produced upon the brain by the seizures and the state only made its appearance after a day or two.

Date: September 12  
Class: Arithmetic  
Time: 10:30-11:00 a.m.

At the beginning of arithmetic, Mary showed signs of anxiety and increased activity. Arithmetic may increase the feeling of anxiety as she had no understanding of the subject and realized her lack of understanding. This particular time, the class was reviewing the addition facts up to the 5's. Each child was using his Cuisenaire rods to form the facts being studied. As a child encountered difficulty, he was given extra help.

Mary was started by the teacher who then moved on to other children. Mary worked a couple of problems, then insisted on being helped again. The teacher obliged, then helped another. Again, Mary was back to be helped. This time the teacher asked her to return to her seat and wait. This made Mary angry, so she pushed against the teacher and refused to move. The teacher took her by the arm and guided her along to her seat, seated her, and walked away. Mary gave a slight scream, bit her arm, and said something inaudibly to herself. The rest of the day was quiet and uneventful.

Analysis

Robinson and Robinson (33:119) suggest that:

Children of three or four are sometimes seized with attacks of violent shrieking, desperate stubbornness or furious rage, when they bite, kick, and do all the destruction they can; these seizures, which are a sort of vicarious epilepsy, come on periodically, and either may pass in the course of a few months into regular epilepsy, or may alternate with it.

Date: January 10  
Class: Art  
Time: 2:30 p.m.

Scissors were being used for a lesson in paper cutting. Each child was to receive individual help in turn. Mary was quite impatient and kept interrupting to say that she was ready to be helped now. When she was sent to her seat and asked to wait her turn, she became angry and displayed her rage by brushing the scissors from her desk onto the floor and destroying her paper.

Analysis

A similar case study was described by Ramey and O'Doherty (31:223). H.G. suffered from grand mal. He was able to work and function socially except during transient periods when he displayed marked rage and agitation. He was somewhat irritable and restless up to a point of agitation at these times.

Date: February 6  
Class: Art  
Time: 2:30 p.m.

The group was making individual valentine boxes which were really shoe boxes. Each child was painting his box red and adding individual touches so each one would be different.

Mary was painting hers using nice broad strokes. She was having a good time as there were no lines to form boundaries for her. One could see that Mary was having a wonderful time painting. She was handling the paint quite well, spilling very little, yet covering the article completely.

When the teacher checked to see if she had finished, she saw that Mary's box was becoming wet and soggy from too much paint. She asked Mary to stop, explaining her reason for the request. Mary refused to stop, but finally did so. Upon stopping, she threw the brush down, turned over the paint, and stamped away. This was accompanied by facial grimaces, stamping feet, and loud declarations that she wanted to finish painting her box now.

#### Analysis:

As noted in a case study by Penfield and Jasper (26:840): Child was very bad-tempered and obviously head-strong. He shrieked and threw things in an uncontrollable

manner. It had become impossible to allow him to come to the table with the others at mealtime.

He was more tractable and cooperative following seizures. After a long period of freedom from attacks, he often became uncontrollable.

Date: February 11  
Class: Art  
Time: 2:30 p.m.

The children were doing paper tearing or cutting, as preferred, to use as decorations for a valentine party. The teacher was helping each child who needed help, to cut hearts or other simple objects. She had helped Mary who was having difficulty using a pattern to cut a heart, then went on to another child.

In the meantime, another child had tried to help Mary, too. She had shown Mary how to fold the paper, where to begin cutting, and stood by until she had almost finished. When the child went away, Mary threw down the scissors, wadded up her paper, stood up, raised up the seat, let it drop with a loud bang, sat down and began to cry loudly.

### Analysis

Brown (5:169) explains:

One form of epilepsy of medico-legal importance is the attack which takes the form of extreme violence whilst in an altered state of consciousness; this is known as an 'epileptic equivalent' or automatism and

may take the place of a fit or follow one so that the individual may carry out numerous attacks which are quite pointless, without knowing what he is doing.

Date: October 10  
Class: Music  
Time: 2:30 p.m.

Mary's teacher exchanged classes with another teacher who taught music. The exchanging teacher had been Mary's first grade teacher, so she was familiar with her.

The children were reviewing favorite and familiar songs, each child having a chance to choose a song. Several children had chosen, but as yet Mary had not. She came up to the music teacher and said that she had not had her turn. The teacher told her that she would have her chance soon, that someone else had just chosen a song.

While the chosen song was being sung, Mary, who sat in a back seat, got down on the floor and crawled up and down the aisles, never going far enough up an aisle for the teacher to see her, but just enough to distract the children. Finally, a child mentioned this to the teacher, who insisted that Mary sit down and not distract the others. Mary pushed against the teacher and refused to sit down. The teacher put her hand on Mary's arm, led her to her seat, and firmly told her to sit. After sitting down, Mary stood up, picked up her desk, and let it drop with a bang. She continued to make noises, get down on the floor, and move around the room until the end of the music period.

Analysis

Fishbein (14:124) suggests:

Another form of epilepsy has been called psychomotor epilepsy, in which persons exhibit temper tantrums, mean streaks or unexplainable, foolish behavior that is automatic and apparently uncontrollable.

Date: October 11  
Class: Story Time  
Time: 12:30-1:00 p.m.

The book read during story time was selected by the teacher or was the choice of one of the students. On certain days of the week, a child might read some from an interesting book. He could do this as often as he wished, and time permitted.

On this particular day, a child was reading to the class. Mary listened for a few minutes, then put her hands into her desk and started playing with papers creating a slight noise. Then she started taking everything out of her desk, folding papers, dropping pencils and crayons, and making so much noise one couldn't hear the child who was reading.

The teacher, who was sitting in the back near Mary, quietly walked back and asked Mary to listen to the story, and told her that she could finish her desk later. Mary glared at the teacher and shouted that she wanted to finish now. By this time the child had stopped reading, so Mary

had the attention of everyone. The teacher put her hand on Mary's shoulder and asked her to rest. As the teacher walked away, Mary stood, picked up the short row of desks, which were on glides, dropped them, sat down, and began to cry, first loudly, then softly.

Her behavior for the rest of the day was quiet and subdued.

### Analysis

Epileptic equivalents were described by Robinson and Robinson (33:119) in this manner:

The group exhibits epileptic equivalents, miscellaneous symptoms which are considered epileptic in nature, paroxysmal recurrent abdominal pain, headaches, dizziness, vomiting, inappropriate laughing spells, chills, flushing, emotional instability, fainting spells, and the like. Occasional outbursts of irrational as well as violent behavior in children and adults may infrequently be a form of epileptic attack.

Date: February 27  
Class: Reading  
Time: 9:20-9:45 a.m.

Mary was unable to give her attention to anything for more than a very few minutes at a time. During the presentation of new words and review of the part of the story previously read, she listened carefully and answered one question. She rarely asked for help with a new word, yet could not give any explanation of how she figured it out. Her attention was usually greatest during this part of the reading class.

Following the introduction and review, the children were asked to read to find the answer to a given question. Mary started to read, read a line or two, closed the book loudly, leaned back in her chair until it was resting on the back legs, and started to talk to her neighbor. The other child asked not to be bothered, so Mary started reading again. Shortly she stopped, looked around over the room, laid her book down, and started to untie and re-tie the bows on her dress.

The teacher asked her to change places with another child so she wouldn't distract the readers. This angered Mary, so she stamped over to the other place, sat down, muttered to herself, and made faces at the teacher. This last behavior was ignored by the teacher, so Mary continued moving and muttering to herself during the rest of the class period.

### Analysis

Lennox and Lennox (18:433) note:

The question of punishment for disobedience and misbehavior is complicated by various factors that concern the responsibility of the child for his badness, his reactions to discipline, and to the manner of its imposition. Certainly children should not be allowed to get out of hand in matters such as taking medicine and following instructions about general hygiene. Periods of bad temper may represent a modified seizure or may be the precursors or the sequelae of a convulsion.



Date: February 28  
Class: First entry into room  
Time: 8:40 a.m.

When the first bell rang the children came in to put books away, visit with the teacher, or do any of the various things pertinent to the beginning of a school day.

When Mary came into the room her eyes were stormy, her lips were quivering and she was on the verge of tears. She started talking as hard and fast as she could, trying to tell about and show what she had done in a workbook which had been taken home. The workbook pages were scribbled on, covering the words so they couldn't be read. The teacher tried to soothe, and at the same time point her away from the workbook. Mary turned away momentarily, then again repeated what had happened to the workbook, and asked how it could be corrected. The teacher got an eraser and started erasing the marks. Another teacher came to talk, so Mary was left to finish the erasing. Mary erased so hard that part of the page was torn. Mary threw down the book and eraser, ran to her seat, put her head down and began to cry.

### Analysis

Dunn (11:479) reports:

A third type, psychomotor epilepsy is less well known. The individual with this type goes through a brief period of automatic behavior during which time

his actions may appear to be purposeful, but in reality are irrelevant to the situation. He may even act violently, and upon recovery from the attack, will not remember what he has done. Such an attack may be passed off as 'bad' behavior or a temper tantrum.

Date: May 20  
Class: Sharing Time  
Time: 2:30-3:00 p.m.

During afternoon recess Mary had taken off her shoes and had put them back on the wrong feet. She came clomping into the room laughing and talking loudly. After sitting down, she put on her shoes properly and continued to untie and re-tie them. The teacher waited for her attention by sitting and looking at her until Mary stopped.

Various children shared treasures brought from home such as stories and poems. During this sharing, Mary was moving continuously, coming up to the teacher or going back to put something in her coat pocket. Suddenly she thought of something she'd like to read to the teacher. She came up and insisted that the teacher hear what she had to read, right then. She was asked to wait until later, or share what she had to read with the other children. Mary wanted to do neither, so she ran back to her seat, sat down, and began to sob.

### Analysis

Alterations in mood is explained by Lennox and Lennox (18:175):

Alterations in mood include irritability, sullenness, apathy, periods of silence or abstraction, apprehension, and a desire to be left alone. There also may be periods of mental dullness in which the patient says he is 'thick-headed or stupid.'

Unpleasant expressions predominate; for most persons the machinery of body and mind does not run so smoothly as usual.

Date: May 21  
Class: Reading  
Time: 1:30 p.m.

One of the mothers, Mrs. G., visited the afternoon reading class. She was asked to sit in the reading circle. Mary sat in the end chair so the guest's chair was placed next to hers. She showed which story was being read and reviewed the story briefly for Mrs. G.

During the silent reading of the lesson, Mary was gazing intently at Mrs. G., leaning against her, and touching her clothing. The teacher caught Mary's eye and shook her head, indicating that she was disturbing the guest. Mary started reading, then put her book down. She stretched her arms until one was almost touching Mrs. G's face and held it there until Mrs. G. moved slightly. Mary, instead of reading silently, kept trying to read to the guest. At the close of the reading class the teacher quietly asked Mary to finish her work and not disturb the guest. Mary stamped her feet, started to pout, pushed against the teacher and said she didn't want to do her work. The teacher placed

her hand on Mary's arm and propelled her to her seat. Mary slammed down the seat, yelled loudly, sat down and bit herself on the arm.

### Analysis

Penfield and Jasper (26:502-504) reviewed a case study:

Mrs. O.--Attacks were apt to occur two days before menstruation. This was followed by marked mental depression, or negativism, during which it was said that she lay in bed and would not talk but seemed to know her husband. She was frequently confused and at times disoriented and incoherent. She was found to be confused, suspicious, negativistic.

Date: October 2  
Class: Physical Education  
Time: 2:00 p.m.

The physical education period was divided equally between simple physical fitness exercises and a game of tenpins.

Mary did the simple exercises, alternating between participation and watching the rest of the children. She usually placed herself behind the children so they would not see if she failed to do the right thing.

The game of Tenpins was played by dividing the children into two equal groups. A tenpin was placed at a spot equidistant from each side. At a given signal, one child from each side raced to pick up the tenpin and return to his team without being touched by the other child.

As the game of tenpins started, Mary sat down on the ground and refused to take part in the game, or move so the other children could play. When the teacher asked Mary to move out of the way, she began to kick and cry and say that she didn't want to play. The teacher moved the group to another spot and left Mary alone. When the game was finished, Mary went off to sit by herself until the end of recess.

### Analysis

Tredgold and Soddy (36:320-321) narrate:

As the epileptic child ages, the picture changes, and in older patients and especially by the teens, abnormal slowness rather than overactivity is seen, though slowness may be punctuated by bursts of rage and violence. At times the patient may appear to be educable or employable, but in most cases their slowness and sullenness makes institutionalization inevitable.

Date: December 4  
Class: Physical Education  
Time: 2:00 p.m.

The game chosen by the group was "Eraser Relay." Each row was competing against every other row. Starting with the first person in the row, an eraser was passed from person to person until it reached the last person. Upon receiving the eraser, the last person in the row ran to the front of the row, each person moved back one seat, and the eraser was passed until it again reached the last person. This continued until the first person was again in his own seat.

When the eraser reached Mary, she started to move to the seat ahead, returned to her own seat and sat down. She refused to pass the eraser or relinquish her hold on it. When the teacher asked for the eraser, Mary threw it down on the floor, stood up, picked up the row of desks, dropped them, sat down, and began to cry loudly. After a few second the loud crying changed to low sobs which lasted the rest of the play period.

### Analysis

Alexander's (1:161) findings are stated as:

Freud's view of the epileptic attack as a short-circuited, uncoordinated discharge of destructive impulses is substantiated by certain fugue states which appear as epileptic equivalents and in which the patients become destructive, often homicidal in their behavior.

Date: February 14  
Class: Physical Education  
Time: 2:00 p.m.

The day was warm and nice enough to play outside, so the game of Slap Jack was chosen. The players stand in a circle, clasping hands. One player runs around the outside of the circle and tags another as he runs. The player tagged immediately leaves his place and runs in the opposite direction around the outside of the circle. The object of both runners is to get back first to the vacant place. Whoever succeeds, wins, and remains in that place, the one left out becoming runner the next time.

The children quickly formed a circle as this was one of their favorite games. Mary moved into the circle and joined hands with her neighbors. She continued to hold hands until two or three people had been tagged, then dropped her neighbors' hands. When one child tried to take hold of Mary's hand, she pushed her and said she didn't have to hold hands. The teacher let this pass without any comment. Soon a child tagged Mary. She stood in the circle ignoring the fact that she had been tagged. Again the child tagged Mary. This time, Mary started to run in the same direction as the tagger, realized her error, went a distance from the group, sat down, and began to cry.

The teacher walked over and asked Mary if she'd like to come back to the game. Mary refused to return to the game, only cried louder and said she didn't like to play games.

### Analysis

Psychic manifestations are described by Lennox and Lennox (18:45) as:

Abnormalities are most prominent in those seizures called psychi or psychomotor, and may range from dream states, or apparent mild intoxication to violent mania. Though blotted out by the unconsciousness of petit mal or the coma of convulsions, psychic disturbances may form a part of the aura or of the postseizure state of these forms of epilepsy. In addition to manifestations during or near the time of convulsions, patients may display continuing abnormalities of mood or thought.

## CHAPTER IV

### SUMMARY AND CONCLUSIONS

#### I. SUMMARY

This paper presents a longitudinal study of the behavioral patterns of an epileptic child.

The purpose was to do library research to determine the existence of patterns of behavior which are characteristic of an epileptic child.

The material consisted of a daily record of the behavior of an epileptic child, covering a period of one school year (180 days), and written excerpts from the daily record of behavior accompanied by an analysis of each excerpt. Each analysis was based on information obtained from library research.

There has been no attempt to use all of the possible excerpts from the records.

The patterns in the sequence of records were selected in the following manner: (1) four consecutive days using a different class and time for each day, (2) art at varied times during the year, (3) end of the week days, Thursday and Friday, and (4) physical education at varied times. The purpose of selecting patterns in this manner was to give an overall view of behavior during various classes, activities, times of the day, and particular days.



A summary of the patterns of behavior of which an epileptic might exhibit, one or all, are related as (1) withdrawal, (2) aggressive or naughty behavior, (3) expressions of hostility and anger, (4) violent shrieking, (5) stubbornness, (6) furious rage, (7) inappropriate laughing spells, (8) sullenness, and (9) irritability.

## II. CONCLUSIONS

Epilepsy has occupied a position of prominence in the life of man from the earliest times to the present day. Ideas concerning the origin of epilepsy were varied. Among them were that one who was epileptic was possessed of a demon, epileptic seizures were visitations supernatural in origin, or epilepsy was a disease of lightning, as it seemed to hit the person and cause him to fall down. Others believed that epilepsy also existed in all living creatures.

Early treatment was given by the primitive operation of trephining, opening of the skull to release the demons. Trephining represented one of the first upward steps in the development of scientific medicine. Evidence of trephining is found in prehistoric human excavations all over the world.

The first step which placed the treatment of the disease on a controllable basis was due to an error in regard to its cause. Sir Charles Locock, in 1857, gave large doses

of bromides to epileptic patients. Bromides diminished the frequency of the epileptic seizures.

From 1857 to approximately 1912 no real advance was made in the treatment of the disease.

Present day treatment consists mainly of the use of anti-convulsant drugs such as Dilantin, Dexedrine Sulfate, or Benzedrine.

The epileptic is affected by the social situations which he has to face. People may not accept him as a full member of society, and this he senses quickly.

The personality disorders which may accompany epilepsy are a consequence of social stigma and frustrating environment rather than epilepsy per se.

### III. RECOMMENDATIONS

Several studies of individual children should be made since variations in individual patterns of behavior preclude taking the observations based on the behavior of one child as general law.

Each study of an individual should be as exhaustive as the investigator is able to make it. Sources of information concerning each child to be studied may be the school personnel and records, the pupil himself, his classmates, his parents, and the community agencies that have had

contact with the pupil and his family. Information received from the above sources give insight into different behaviors in different situations at different times.

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### CONCLUSION

<sup>+Lennox</sup>  
Lennox (14:436) states:  
18

The behavior of an exceptional child like that of any other is a sensitive barometer of the emotional climate which surrounds him in his immediate environment. The climate, like that of any other child, depends essentially on the personalities and attitudes of his parents and on their understanding of his feelings and his needs. . . . Some parents cannot forgive their child that he is not as they want him to be.

<sup>\* Pearson</sup>  
English (9:259) declares:  
12

Children who have suffered from a cortical disease or injury, particularly if it involves the pathways from the frontal lobes, are less able to impose and in many cases are incapable of imposing any voluntary control over the expression of hostility, rage, and anger. A similar deficiency of cortical control exists in those individuals whose brain physiology is disordered, as in cases of epilepsy.

<sup>5</sup>  
Brown's (4:169) expressed opinion is:

The fits in epilepsy may occur at any time of the day or night and be of any degree of frequency but <sup>day</sup> the pattern seems to be characteristic of the individual; they may occur only at night, in which case their existence may be unknown for many years, and daily, weekly, or only once or twice in a lifetime.

No physical disease seems to accompany epilepsy, and apart from the fits, the individual remains in perfect health. In some cases there may appear to be some deterioration over the years, the patient becoming dull, irritable and impulsive, forgetful and self-centered.

The results of a study were related by Garrison <sup>+ Force</sup> (12:415). <sup>They</sup> concluded:  
16

In response to the limitations associated with their handicap, the children appeared to follow no single pattern, which might be characterized as a typical personality pattern. Rather, they reacted in various ways, some tending to withdraw, others to behave aggressively, the majority following a middle course. The pattern seemed to be dictated less by the common handicap of epilepsy than by their own personality variations.