"Some findings from the psychoanalytic treatment of two children with epilepsy."

PRIMARY PROCESS AND SENSORIMOTOR FUNCTIONING IN TWO CASES OF CHILDHOOD EPILEPSY

Judith Deutsch, M.S.W.

Presented at Annual Meeting, Canadian Psychoanalytic Association, Toronto, June, 2001.
Revised, July, 2003.

(C) 2001, Judith Deutsch. Not for distribution without permission.

"The verge of sleep was always terrifying to Nicholas so he would drink himself into it blunting out the seconds of pure fear when he could not use his arms, would lie there knowing he'd witness the half-second fall before sleep....." M. Ondaatje, *In the Skin of a Lion.*

What has often come to mind in sessions with the two epileptic children described in this paper is Freud's moving description of Michelangelo's Moses at the exact moment of delay and inhibition of an impulse (Freud, 1914). Through very careful observation, by noting details that were insignificant to art historians, Freud reconstructed how Michelangelo depicted Moses at the moment of overcoming his own rage at the "mob" of people who themselves had no inner controls or self-discipline. Michelangelo's Moses does not lose control and fling down the Tables. Freud describes a split second process in which Moses calms himself: "it is as if the controlling influence had proceeded downwards from above". Moses' face reflects calmness, the torso expresses suppressed movement, and Moses' foot "still retains the attitude of the projected action"(p. 230). He writes of how Moses' left hand caresses the end of his flowing beard, countering the violence with which he had misused the beard a few moments before. He concludes that "the singularly constrained air of the whole -- beard, hand and tilted Tables -- can be traced to that one passionate movement of the hand and its natural consequences"(p.228).

The psychoanalytic framework opens avenues of observation and exploration that are otherwise overlooked. In the following two cases of childhood epilepsy are sessions that contained sequences involving frantic distress, perceptual and proprioceptive confusion, motor disinhibition, and motoric means of regaining equilibrium during panic states that featured particular use of the children's hands. The focus here will be on the sensory and motor disturbances affecting the children's overall functioning but particularly primary and secondary process thinking, the panic states observed during psychotherapy sessions, and details of their first seizures as they emerged within the therapeutic process. This paper does not answer the following questions which must await more extensive and coordinated psychoanalytic and neurological studies: a) whether what is observed in the sessions is a cause or effect of the seizure disorder b) whether or in what way the children's behavior was affected by their medication; c) whether, or in what way, the children's panic attacks as they occurred in the sessions are neurologically related to their seizures; and d) whether these kinds of

panic reactions are specific to children with epilepsy.

{Epilepsy is generally considered a neurological condition involving an excess of excitation over inhibition of neurons, manifested as a variety of seizure types. Current classification is based on whether the onset is focal (localized) or generalized and whether there is impairment of consciousness. The subclasses delineate motor, sensory, affective, cognitive, and autonomic symptoms in various combinations. Generally, diagnosis is confirmed by EEG's which demonstrate epileptiform activity. Epileptic seizures can be precipitated psychogenically. This paper does not deal with the phenomenon of psychogenic nonepileptic seizures (pseudoseizures) (Williams, 1996)}.

Psychoanalytic Theories of Epilepsy

The following selected psychoanalytic references contain observations about seizures and about the overall psychological functioning of epileptic patients. These articles include detailed case reports and theoretical discussions generated by the clinical material. Some of the articles come from an earlier period when psychoanalytic observations and theory-building were closer to the biological and when disorders such as epilepsy were not classified as purely medical..

The writers see seizures occurring at two levels of psychological organization. In the first category are seizures having a symbolic content which came to serve an ego or superego function, that is -- to be involved in conflict. One of Freud's explanations of Dostoevsky's seizures was that they represented an identification with the cruel father and functioned as a self-punishing death(Freud, 1928). The spasmodic hand movements of Greenson's adult patient represented both sides of a conflict : the wishes and prohibitions around masturbation (Greenson, 1944). When the patient himself made this connection between his hand movements and masturbation, for the first time in months he went without a seizure for four days.

{Gottshalk's ten year old male patient had three kinds of seizures, his atypical absence states first occurring when he was five years old (Gottschalk, 1956). These absence states were associated with primal scene observations which were connected at the time with complicated visual patterns and could be self-induced by staring at particular patterns. Gottschalk wrote that these seizures maintained "higher levels of cerebral integration" (p. 378 These patients' seizures manifested themselves in sensory and motoric symptoms}.

In the second category, seizures are seen as a mode of discharge closely related to the traumatic breakdown of regulatory mechanisms. Freud wrote that "[it is] as though a
mechanism for abnormal instinctual discharge had been laid down organically, which could be made use of in quite different circumstances -- both in the case of disturbances of cerebral activity due to severe histolytic or toxic affections, and also in the case of inadequate control over the mental economy and at times when the activity of the energy operating in the mind reaches crisis-pitch." The epileptic reaction is then a way "to get rid by somatic means of amounts of excitation which it cannot deal with psychically" (p. 180-18l). It is significant here that Freud also wrote that seizures may be determined by purely physical causes "but may nevertheless owe their first appearance to some purely mental cause (a fright, for instance)...." Gottschalk and Fraiberg(1967) described the redistribution of psychic energy through alternative pathways of discharge.. For example, Gottschalk found that when thoughts and feelings just prior to and immediately following his patient's psychomotor seizures were analyzed, this kind of seizure gave way to temper tantrums which subsequently became milder and briefer with treatment.

The most extensive psychoanalytically informed study was done by a research

group under French pediatric neurologist Roland Bouchard(1975). Their final sample included 151 children, 77 with EEG anomalies, and excluded children whose seizures were due to identifiable organic involvement. Like Freud, Bouchard saw seizures as discharge phenomena initially triggered by "fright". "The event perceived in external reality seems to act directly and induce a discharge without passing through the in termediary of the ego. The mediating link is ignored and the ego [is] overwhelmed by the coalescence of a terrifying fantasy and a reality perceived as terrifying" (p. 125). Bouchard wrote that the response goes directly from perception to motor discharge, involving processes of instinctual defusion. Their group found three preconditions necessary for a seizure disorder to materialize: the fragile personality of the child who functions within the severely neurotic, borderline, or psychotic range; a deeply pathological family environment; and a fortuitous and unexpected event that precipitates the first seizure (see cases below).

Both Hendricks (1940) and Kardiner (1932) place traumatic levels of anxiety and profound disturbance of basic sensorimotor functions at the center of the epileptic reaction. {Hendricks found that aurae in his patients contained vestiges of the repressed severe anxiety attacks that had originally led to their seizure disorder. In one patient, the epigastric sensations of his aura were part of the sensory state that had formed the subjective experience of conscious acute anxiety. Hendricks wrote that the cortical disturbance was initiated by critical tensions of the autonomic system whose discharge as an anxiety syndrome was inhibited.}
Kardiner describes precipitating situations of sudden shock, the absence of signal anxiety, and his patients' overall incapacity to mentally represent anxiety or to displace it to the outside world. At the traumatic moment and in the aftermath of the epileptic attack, his patients lost functions of orientation, perception, and the cognitive ability to connect sensory responses with voluntary motor activity. Using the concepts of free and bound cathexes, Kardiner described in detail the processes of instinctualization or defusion of the basic sensorimotor ego apparatus that occurred as a response to the state of fright. He wrote that these basic functions became inhibited as a result of trauma, and that restitution involved a recapitulation of ego development starting at the level of mouth/hand integration.

It is conceivable that psychoanalytically informed interventions contribute to modification of seizures in two ways, either by moderating the stresses that can trigger seizures, or by altering pathways so that triggering stimuli lead to alternative responses. The neuroscience literature, while still far from specifying exact mechanisms, indicates that psychological learning and experience affect basic neurochemical processes.
{Post (1992, p. 999) summarizing his findings, wrote that "both sensitization to stressors [including psychosocial stressors] and episode sensitization occur and become encoded at the level of gene expression.". Merzenich's study of a monkey's fingers demonstrated that cortical sensory maps are "subject to constant modification based on use of the sensory pathways"(Kandel, 1992, p. 85-86). In other words, experience itself, which in this case was the repeated use of specific fingers, leads to significant alteration of the parts of the brain that carry out perception of touch in those fingers. }

Primary Process and Sensorimotor Functioning

It is helpful to keep in mind the extensive importance of early sensorimotor experience in young children. Musculature and motility "contribute decisively to the differentiation between self and environment and, through action, to the differentiation of the environment itself" (Hartmann, 1949, p. 23). One way to think of this early

sensorimotor period is that action is experimental thinking, just as eventually thinking becomes experimental action. Bruner's(1983, pp. 29-30) summary of experimental findings leads to the conclusion that there is a capacity for logical secondary process sensorimotor functioning from the beginning. He writes that infants have the cognitive ability through their sensorimotor equipment to make means/end connections, that they can comprehend the structure of an action to achieve a satisfying end, that they make simple but systematic experiments to test reality, and that they have some capacity to distinguish what is physically impossible in terms of time, space, and even causation. One inference is that problems in sensorimotor function can then lead to problems in reality testing and in secondary process thinking. Another implication is that both primary and secondary process functioning can occur at the pre-imagic and pre-conceptual sensorimotor level.

{The concept of sensorimotor primary process functioning has been applied to night terrors, hypnagogic states, and Isakower-like phenomena by Dowling(1982), and to psychotic children by Bonnard(1967). Dowling writes that this earlier primary process is closer to bodily experiences, especially of a diffuse sort, and includes undifferentiated sensory and affect states, often with kinesthetic and tactile sensations rather than visual imagery}

In three comprehensive articles, Mittelmann (1954, 1955, 1957) follows Hartmann in describing motility as a separate urge in itself which becomes more significant in the second and third years. You will hear how the two children in this report had significant early interferences in motility. {Mittelmann describes the motor stage of development from the various metapsychological points of view. He observes that interferences in motility can have a profound impact on all areas of functioning. Traumata affecting motility can be directed towards the motor function directly or towards the impulses connected with motor functions. The most frequently seen problems are restriction of motility, often resulting in increased anxiety and aggression, and awkward motility. Conversely, healthy motoric functioning is connected with the expansion of functions like reality testing, impulse control, mastery, and the broadening of pleasure strivings. Affect is first experienced in affectomotor patterns, and regression to these affectomotor patterns tends to occur in intense affective states. The muscular expression of conflict can be in nonspecific "tonic" or "clonic" reactions (1957, p. 285), or in more specific compromise formations such as in tics or the jerking movements of Greenson's patient.} Mittelmann describes specific motoric defenses like the reaction formation of replacing attacking motions with flaccidity. The anxiety specific to the motor stage is of uncontrolled falling.

Connected with falling, and the ability to achieve a sense of safety, is nonconflictual use of hands: when the hand is not inextricably linked with aggression, helplessness, or out-of-control sexual excitement.

From the beginning, the hand is closely allied to the mouth in achieving tension relief. As well, the baby's hand, in touching his own body, provides the first self-oriented reality that can be retained while using external reality. He goes on to write that the function of arms and hands develops far beyond the original hand/mouth relation and provides a sense of equilibrium in the physical world. { Clerk (1972) described a related finding based on the works of Hoffer and Piaget.} Observing hand-mouth-eye behavior in four latency-aged schizophrenic children, Clerk wrote that coordination was possible only for moments when the children were helped by the presence of their teacher. Otherwise, the hand in particular was characterized by driven activity, functioning as the expression or extension of related erogenous zones. Clerk writes that stereotyped, repetitive hand movements also served a self-controlling defensive function at the sensorimotor level: "the substitute hand activities would be the first attempt on the part of the ego, or rather the body-ego, to protect itself against instinctual demands"(p. 79).

{It may have been that the children described below were compromised from the very beginning, neurologically vulnerable or overly sensitive in particular ways, leading to a predisposition to a seizure disorder, and that in retrospect they required the "gifted" kind of parenting described by Fraiberg(l964) and Greenspan(l981),

parents who can provide alternate pathways for mastery. Alternatively, it is possible that their particular temperaments evoked complementary regressive responses from their parents}. What stands out in the children's sessions are the developmental lines Anna Freud(l979, 129-130) wrote of in her last papers as needing further study and clarification: the slow and halting development of secondary process functioning, the pre-stages to distinguishing between the inner and outer world leading to the adult's reality sense, the line toward discharging mental excitation via mental (not somatic) pathways, and the line toward impulse control. Listening to the children brings home the profound effect of disturbance in these developmental lines: "each step forward in any of these respects represents a hard-won victory in a battle of influences which emanate simultaneously from the inherited constitution, the environment, and the three different agencies within the mind"(l983, p. 388).

Children with "falling sickness" have had great difficulty taking steps, literally and figuratively. Significantly, parents of the two children I will describe in detail reported that at home the children had much difficulty with the board game "Chutes and Ladders," a game of chance in which each step forward can send the player down a chute, each chute illustrated by a mishap or misbehaviour, as if the fall were a punishment. By and large, treatment has also been a very difficult step for many of these parents who cling to the idea of an organic disease and who come fearfully to psychotherapy as a last resort.

Case 1

Background information: Jonathan A. was referred for psychotherapy when he was eight years old and was seen weekly until treatment was interrupted after nine months. Mr. and Mrs. A. sought help as they were concerned about his behavior problems at school, particularly his physical attacks on other youngsters in the classroom. Without warning, he would suddenly push children down or stab them with a pencil. His parents believed these attacks to be a response to teasing. His parents felt that he never showed shame or remorse about these aggressive attacks. They were deeply concerned about his seizures at school but did not feel that they were connected with any of the stresses there.

At the time of referral, Jonathan's partial seizures were confined to recess time at school and to the early morning hours when the seizures awakened him from sleep. Following his secondarily generalized tonic-clonic seizures, he slept for several hours and had headaches. Mr. and Mrs. A did not think that early morning seizures were connected with his dreams. An MRI indicated atrophy in the left temporal, parietal, and occipital lobes. The EEG was described as mildly abnormal with focal epileptiform activity over the left central and parietal areas. He was on Carbamazepine(Tegretol) 1000 mg daily. The parents attributed seizure and behavioral problems to levels of Carbamazepine and to states of fatigue and "body temperature". In an inconsistent way, they attributed both improvement and deterioration to the same level of Tegretol.

Most upsetting to both parents had been his tantrums, which they dated from his earliest years when he was a fussy, uncomfortable infant, and to the period when he entered junior kindergarten at 3 1/2 years when his brother was born. His parents find his high-pitched cry intolerable. His "tantrums" are described as uncontrollable and inconsolable fits of crying or screaming which finally end when Mr. A. spanks Jonathan. His father said that spanking and seizures "shock" Jonathan into being a "happy boy." He had always been highly sensitive to noise, and in his first year he already held his hands over his ears. He was rigidly dependent on routines and was upset to the point of

tantrums when there were surprises, frustrations, transitions from one activity to another, or interruptions. His parents said that he was often awakened by bad dreams and came into their bed at night, but the only dream they recalled was about a roof or skylight catching on fire.

His teachers from early on described him as being autistic-like in his isolation from others and in his need for order. They described his speech as "monotonous, almost programmed," and noted the absence of affect, except for a rare smile during music time. He was very concerned about rules, learned them easily and repeated them over and over again. At school, Jonathan had a long history of tantrums or crying fits in which "no reasoning, consoling, or re-directing works." His classroom assistant supported his capacity to calm and control himself. She noticed how he grabbed one arm with his other hand to stop himself from striking another child.

As Jonathan became more expressive and communicative with initial treatment, Mrs. A. called me in distress, experiencing his newly emerging feelings and failures as her own. When he talked angrily to a priest at school, she said with anguish that maybe it was better that he have seizures than misbehave; when he cried inconsolably on his brother's birthday, saying he thought he would never have his own birthday, Mrs. A. said she felt helpless and carried the same sad and desolate feelings for hours, relying on her husband to console Jonathan.

First Seizure: Mr. A. in particular talked about psychological issues in a dismissive and disparaging way, and often chuckled with a beleagured and sad look after recounting incidents about himself or Jonathan. It was only after several months of our work together that he described his son's first seizure which occurred when Jonathan was 5 years old. The father had dislocated his foot playing football and showed me how his foot had appeared detached from and at a right angle to the rest of his leg. He chuckled and said he felt no pain. His leg was in a cast for four weeks. Jonathan's first seizure occurred the day after Mr. A.'s cast was removed, just when Jonathan himself was about to kick a ball. In this first seizure he was not able to move his right arm or right leg.

In his sessions, Jonathan spoke in a remote voice, with each word spoken in a slow and measured way. In the first session, it seemed at first as if he could not understand any of the words I said. He looked as if both listening and talking were painful and that he could cry at any time. His somewhat garbled speech, clumsiness, and squint gave him an odd appearance. I told him what I knew of his problems, and he volunteered that he had problems with only one boy who picked on him, who pushed him down over and over again. He said that whenever he tried to go up a hill, this boy pushed him down again. He could not think of any reason for this to happen, or any feelings that might be connected, but talked of other situations of feeling belittled and of his brother cutting the string of his balloon. He could not even "imagine" any solutions to any problems and conveyed that this pushing down problem was quite incomprehensible to him. I wondered about things becoming confusing to him and suggested that was something we could work on. At the end of the session, he asked to draw a picture and drew streaks of lightning and a tree on fire with very little, tiny raindrops to put out the very big fires--then he drew a sunflower that he said was untouched by the lightning.

He made it clear in a variety of ways that he needed to establish a sense of

physical safety and control regarding time and space. He initiated a ritual at the beginning of each session. He went over to the heater/fan, commented on how I set the dial, and then he regulated it so that he was in control of the temperature and the flow of air. Then he obsessively laid out the playing cards like the face of a clock and with tension and concentration sorted out the pack. He haltingly paced out the surface area of my office, and he talked about the many ways one could fall down and be killed from head injuries. I spoke about his memories of scary seizures and his wanting to make sure this was a safe and not a falling-down place. After he established his sense of balance in the office, he turned to toys. With confusion, he studied the doll house and wondered if the small electrical outlets were for fastening the doll furniture to the wall so that nothing would fall down. He then haltingly described in detail how his family made popcorn in their microwave. He looked at the floor and at the ceiling as he tried to reconstruct in his mind which side of the microwave was up and which side was down, and then seemed to resort to relying on the package directions indicating which side of the bag said "up", as if he did not have an inside body sense about up and down. He repeated three times, with a sense of marvel, how the kernels tripled in size because of the heat, touching his penis as he talked about it. I commented on his mix-up about up and down with the popcorn and also with his body. In that session, he described an incident in which he stabbed another boy with a pencil at school. He said that the other child had bumped into him, and in response to my questions said that he did not think that the boy was angry with him or vice versa. Instead of remembering with words, he then fell forward against the table and slumped over. I wondered out loud if he was showing me what he felt afraid of when he was bumped....that he didn't really fall over but that was a big worry.

Jonathan readily responded to my invitation to use his imagination as a way to consider solutions to problems that came up when he felt so upset: he was able to delineate more about his inner world in a metaphorical way. For a number of weeks, he built a prison out of lego, talking mainly about the sturdy high brick walls. He introduced a prisoner and a guard, stressing that the guard had to be constantly watchful, for even if he turned his head for the slightest second the prisoner could escape. Jonathan said that the prisoner was a burglar who stole money for food and clothes. He said that his own mother and father worked all the time, even when they did not want to, for otherwise the family would starve and die. I wondered how he or his family came to have such very big worries. He talked about his fear that he would forget to bring in money for pizza day at school, and I suggested we try to think about how his memory could help for him around something that was so very important to him. In subsequent sessions, Jonathan put flowers and companions into the jail, and then for awhile the jail walls came down. In building with lego, he could become quickly frustrated, quickly convinced that an important piece was missing. With considerable distress he quickly dismantled his own building or put everything away before even looking for the piece. His behavior around food was similar: he convinced himself that special food was unavailable, so that even the thought of food was highly frustrating. As we talked about his "now-or-never" expectations, he began "to look and not look." For example, after saying that his babysitter never gave him the food he wanted, he drew little jelly bean shaped marks with sensation markers (pens that smell like food), then covered them up with a great deal of tape, and then folded it so he could not use sight or smell to remind him in any way of food.

Panic state: In one session, an experience of panic was suddenly halted by a sensorimotor action. The incident occurred during the session after he had missed a week due to his own vacation. Before this missed appointment, he had told a story about the solar system, dwelling on Pluto , the coldest and smallest of the planets. He haltingly talked about how Pluto was so very far away, and he said that this far off planet needed a heater/fan in order to have air so that air could push its food in, and that it needed to be warmed up. I talked about how he had come to know the heater/fan in my office and that perhaps Pluto and he himself would feel better close by rather than so far away. When he returned from vacation, he did not look at me, adjusted the heater, and started to build a prison, saying it needed very high walls. He built one prison, then decided to make it more elaborate and looked as if he were decorating it, but suddenly he became intensely frustrated and distracted, saying that nothing would work-- he angirly threw down a few pieces, seemed disoriented and dizzy, and rapidly took everything apart. In an increasingly pressured and frenetic way, he grasped at one piece of doll furniture after another, and then confusedly held up the toilet and sink (they are mounted to a little wall). He rapidly turned them in all different directions, not able to figure out which side was up and which side down, or how the water would flow through the pipes. Then he scribbled in large circular motions as he looked around in a dazed way, and with a yellow marker said that he was making a Japanese letter(incomprehensible to him). With a kind of frantic concentration, he repeatedly stabbed at the paper with a sharp pencil and suddenly stuck his index finger through the hole and immediately calmed down. He then scribbled circle shapes over and over again around the hole he had pierced with the pencil, then again stuck his finger through the hole alternately bending and straightening it, and eventually he explained that it was a lego, and that when his finger was straight the lego was there and when he bent his finger at the joint the lego was not there. Until he calmed down, he did not seem to hear anything I said and it was as if he could not stop or slow down the disorienting process of his distress until he "accidentally" discovered his finger. I said that he seemed to calm down when he knew that he could find his finger - that maybe it felt like he had lost me too when he went away.

After this session there was a shift in content and in his manner, and he developed a new symptom -- stuttering. There was much talk and play about falling down. Over a number of sessions he painstakingly developed an elaborate idea about how to puncture his father's balloon with a sharp pencil attached to a paper rocket. He repetitively talked about the balloon being inflated and deflated and then falling to the ground. (I wondered about the kicked ball of the first seizure, about the confluence of the ball/penis). Jonathan once stumbled and hurt his leg in a session after he fleetingly appeared annoyed with me and in several subsequent sessions he clearly looked like he was about to throw a ball at me but then he flopped down on a stool. As I pointed out this sequence of being upset with me and then falling down, maybe to stop himself from being angry, maybe as a kind of punishment, he smiled slightly and made a "practicing" game of falling down on a soft stool. He often spent part of the sessions upside down, looking at things and at me from various angles. He also practiced and investigated "falling down" within his play. With some pleasure he repetitively pushed lego vehicles off precipices and then restored them ro their original positions. One time while upside down and confused, he kept calling the ceiling a "roof" and then corrected himself by recalling that the roof keeps the rain out and the ceiling does not. He was curious about lights and their

reflections for he often examined light from various angles with a mirror and magnifying glass. I wondered if he thought that in part he was practicing looking and falling in order to feel in control of himself, and if feeling out of control was a scary part of the seizures. He told me that his dreams were too scary to talk about but that he thought that he only had one good dream in his life, a dream he could not remember. By the time psychotherapy was interrupted, he no longer had seizures at school and did not attack other children. He did have a seizure right before dinner at his home and still had seizures in the early morning hours.

Case 2

Mr. and Mrs. B. sought treatment for Sonia when she was six years old after all attempts to get developmental help had failed. Sonia had undergone many assessments because of her seizures, learning problems, and social immaturity, and she had variously been diagnosed with Asperger's Syndrome, ADHD, and Pervasive Developmental Disorder. She has been in psychotherapy for nine years, and during the period described in this article, when she was eight years old, she was seen twice/weekly. At the time of referral, her parents said that Sonia lived in a fantasy world and that she was socially inappropriate, often touching other children's hair. The parents were unable to think about Sonia's feelings; they said that Sonia did not have any particular fears. Her first seizures occurred at age four and one-half and she was diagnosed with generalized epilepsy with absence and tonic clonic seizures. On the EEG, the background activity was reactive to both eye opening and eye closing and the bursts of generalized irregular epileptic activity was associated mainly with eye flutter. Her last observable seizure had occurred approximately one-half year before she began psychotherapy, but she continued to have an epileptiform EEG and was on Divalproex Sodium 125 mg. t.i.d. At age 7 1/2, her EEG was normal and her medication was tapered off within one year.

Mrs. B. said that Sonia was unwanted by her as she felt she could not handle being pregnant and raising children and that it was primarily Mr. B. who wanted children. She hated nursing Sonia and felt closed in and overwhelmed. She abruptly weaned Sonia at two months when her own father died. Mrs.B. said she always had difficulty feeding Sonia and even at the tiime of assessment worried that Sonia was still a "failure to thrive" child. Shortly after her father's death, Mrs. B. became severely depressed and had hallucinations of the walls caving in on her. She was hospitalized, and upon discharge, she returned to work. For the most part, Sonia was cared for during her first three years by her paternal grandmother and by Mr. B. They were themselves in mourning for Mr. B.'s teenaged sister who had died of a congenital illness about three years before Sonia's birth. Sonia was named after this deceased girl whose photographs were displayed about the house. Sonia entered a series of daycare centers and school programs after age three and failed to progress socially, cognitively, and motorically.

Mrs. B. was concerned about how her own anger affected Sonia and described herself as a frightened and frightening woman. She spoke to Sonia in a stilted way, as if reciting from a script, and usually was not able to sit and wait for Sonia in the waiting room but left as soon as Sonia entered my office. Sonia saw many scary or exciting things with her eyes: for example, menarche was traumatic for Mrs. B., and she thought that preparing Sonia by exposing her to the bleeding would lessen the trauma, so Sonia routinely saw her mother change her menstrual pads. Upon my recommendation, Mrs. B. maintained bathroom privacy, and over time she became softer with Sonia. She has interceded on Sonia's behalf with Mr. B., teachers, and doctors.

Mr. B. is very quiet, subdued, and intimidated by authority. His concern was primarily around Sonia's educational problems He was generally very gentle with Sonia when she was good, but harshly critical when she misbehaved, still spanking her on occasion. He severely

limited Sonia's movement, not even allowing motoric outlets like fidgeting with hands or swinging legs when she had to sit through long adult conversations. They watched many scary and exciting movies together, without her father sensing Sonia's reactions. In one session, during the third year of treatment, Sonia wept inconsolably after her father called her a "dog" for frantically stabbing with a pencil a girl's coat, and she begged me to talk with him. She seemed on the verge of actually believing herself to be subhuman.

The First Seizure: Mrs. B. described Sonia's first seizure during the assessment and since then has not been able to recall emotional aspects of the incident. Mrs. B.'s mother had died two weeks prior to the seizure, and Mrs. B. was feeling overwrought as she lay in bed one morning. Sonia came into the bedroom, climbed into bed with her mother and touched her mother's face. Mrs. B. reacted explosively and told Sonia to leave the room, and a few minutes later Sonia had a seizure. She awakened at the hospital and seemed frightened and disoriented, and it was either at that time or during a later hospitalization that she tore the EEG wires off her hair.

Sonia presented as a terrified child with major confusions and delays. She characteristically paced rapidly back and forth with a stiff gait and with her head tilted forward. She talked in a loud impersonal voice and always had a fixed smile on her face. At some unpredictable point in each session she ran to the washroom to defecate in her disembodied way, without wiping, flushing, or washing her hands. There were never any signs in the preceding behaviour or in her body posture that were remotely connected with toileting. She also expressed confusions about real and pretend and about her own size. Initially, she dictated everything I said, which meant that we could only talk through the memorized movie scripts. As I was able to talk about her worries about being with me and the defensive use of scripts, she began to use her own words. I was scary women like Cruella de Ville, Cat Woman, or the witch in Rapunzel. These women would at first appear normal, and then suddenly, without warning, turn into mutilating witches who somehow removed hair. Not being able to see whether people were nice or frightening was one aspect of her not being able to use her eyes to help herself. I talked about how scary it was to not have warnings, and wondered if she had some memories of scary things happening to her hair. Later, we were able to link up the hair pulling feeling with her EEG's. In her history, she had been exposed to many frightening sights in the presence of parents who could not acknowledge her fears and who prohibited motor discharge of tension or active defense.

The use of her eyes was not neutral. She regressively used her eyes like a much younger child in which eyes were not cathected as a tool: in hide-and-seek, she was quite exposed where she hid; in peek-a-boo kinds of interactions, she believed that I could not see her if she covered her own eyes. She was terrified of me when I changed from contacts to glasses. She tried to pull my hair, pull off my glasses, and pull up my skirt. She was too terrified to look at me and fled the office, locking herself in the washroom. She believed that her eyes were damaged if mine were, and she thought I was a different person with my glasses. (Currently, we have come to understand her "addiction" to looking as connected with primal scene exposure).

At times, my integrating comments about affect helped Sonia integrate in surprising ways. For example, she rarely used her hands in coordination with her eyes. Her rare drawings were scribbles done with the large circular motions of toddlers and her inability to draw within an enclosed space looked like a Bender indication of organicity. Once while she scribbled I wondered about her smiling as she talked about scary things, and she surprisingly drew with great care and fine muscle coordination two faces, one happy and one sad. Her response to one of my comments conveyed how much she was unaware of having her own mind or a body she could control by herself. I told her in the context of her fantasy play that no one could read her mind. She cried out in pain with genuine feeling, and she held her head in her hands. She asked me to repeat the interaction over and over again. Then for the first time in months she took notice of herself and said quite accurately, and with some surprise, that she had not gone to the

washroom during the session. I later offered a guess that the EEG's might make her feel that people can see inside her mind so that she could not have secrets.

Panic State: Several weeks after Sonia panicked about my eyeglasses, I returned from my vacation with a broken arm. Despite preparation by her mother, she immediately panicked, ran frantically around the room, and yelled "this place has to be destroyed" and "it is the end of the world". She attacked me in quick and sudden movements. She tried to pull out my hair, grab my arm, and hit me in the face. Then, in the midst of all her darting hand movements, she reached out her hand and suddenly asked in a wild and distracted way if she could touch my cheek which I allowed her to do. In that dramatic moment she immediately and completely calmed herself. I said it was like when babies touch their mother's cheek, and uncharacteristically she responded immediately with a real fact about herself. She then said with a quiet voice that her mother did not allow her to touch her cheeks as that would give mother a rash from Sonia's germs (confirmed by mother, who subsequently allowed Sonia to touch her). Then she looked as if she had just awakened, sleepily opened her eyes, and, surprisingly using her own mind, asked about the difference between daydreams and nightdreams. She said that she always made noises, talking to herself or singing, and that her mother told her to be quiet and to daydream. She said that she did not know if the daydreams were inside her mind or what was meant by "mind". I wondered if she had been so scared that she had been broken, and that maybe my broken arm made her remember her worries about her own head and her mind.

In the ensuing hours, a recurrent sequence emerged in which intensely upset feelings were expressed with much agitated motor action and loud threatening talk through a pretend character. Again, this was suddenly interrupted by her asking to touch my cheek. Then she would "come to", as if awakening or coming out of a dream, and in her own voice, and in the same kind of dazed way, she talked about or asked many questions about herself, questions that at first were connected with her past seizures. In one instance, she drew lines on a paper and then drew spikes and waves, asking what "waves" meant. Another time she asked me what "glazed" and what "diagraph" meant. She asked much about heart attacks and remembered her maternal grandmother who died two weeks before her own hospitalization, and she expressed confusion about the difference between heart problems and seizures. She talked of her own fear of dying, and she revealed her hatred of her first and middle names and explained that they were connected with dead people. She revealed that her dead namesake was pretty and blond, and that she was the "bad" messy part. She said she had no memory of any hospitalizations. Her "cheek feelings" themselves hearkened back to her first seizure when her mother could not tolerate being touched on her face. "Cheek feelings" became a shortcut way to talk about how she could calm herself with memories of loving feelings when she began to experience rage and panic. Her signal for rageful feelings was a brief moment of baring her teeth, and she repeatedly recited a poem about "chomping and chewing" in which she turned the "ch" sound into more benign memories of "chocolate and cherries" and "cheek feelings."

At this time, "falling down" entered her communications in many ways. She frequently fell down suddenly into a pretend "faint." Fainting seemed to be away to escape painful external reality, such as when she pretended that she fainted when a pretend boyfriend told her she was too young for him. Or it was a way to quickly ward off her own projected scary angry feelings, such as when she again saw me as a "glasses" Judy: she said that she was feeling weird, looked around strangely, and said she was going into a deep sleep. She lay down and asked me to kiss her so that she would not be lost forever. She said that she remembered that she loved her parents and that her parents loved her, so that she would come back. I talked about how I thought she was so afraid that big angry feelings could make me or herself leave eachother forever, and how much she wanted my kiss and her love to keep us together. She also fell once when she began to masturbate in a session - falling as a punishment, as a way to stop herself (an inhibition), or perhaps an expression of her excitement.

Being able to feel settled and oriented with a cheek feeling seemed to enable her to talk

more of her own sensory states. At times she talked about seeing lights after expressing anger at me. At other times she looked at lights as part of sensorimotor exploration and experimentation. In many sessions she asked to stand on her head, to look at the room from different angles. Once I asked her if her eyes hurt as she squinted from looking upat the lights, and in a dazed way she reached out for spots, asking if I saw them too. To quote from a neurology report about Sonia at five years: "[I]interestingly enough, on one occasion, [Sonia] did admit to seeing flashing lights at times, which other people couldn't see, but the degree of reliability of this report is uncertain." Three years after the panic session, Sonia interrupted her own loud angry talk with a moment of suddenly feeling dazed and disoriented. She said she felt weird and talked about seeing lights. Then she thought very carefully and in a measured way recounted a play story that contained the cause as well as the resolution of her anger towards me. The character she enacted told the angry bad girl who barged into the office that even though she was very angry, she herself would certainly not throw the angry girl out on the street or keep her from food, and that the main thing was that angry or not, she cared for her -- being angry did not just mean banished to the ends of the universe.

Emerging from the work with the two children were the three conditions connected with the seizure disorders described in Bouchard's study: underlying severe psychopathology, a disturbed family environment, and a sudden precipitating real event confirming a terrifying fantasy. In ways, the family enviroment of these two children kept aspects of the original precipitating stress strikingly alive in the present. For example, when Jonathan stumbled over his father's foot in the waiting room after the father made a subtly dismissive remark, Mr. A. said "That's okay Jonathan, I still have one foot left." Mrs. B. still thought that Sonia's hand could actually give her a rash and she startled whenever Sonia moved towards her face.

Discussion

Perhaps one aspect of the panic experiences and their aftermath can be characterized as "feeling is believing" rather than "seeing is believing". Often Sonia needed to touch my cheek, asking me at the beginning of sessions whether I was actually myself and not trusting her eyes. As Jonathan became disoriented in the panic sequence, his eyes did not help him to orient either himself or physical objects in space. Even physical sequences, such as how water flows through pipes, were confusing, and he could not use my words or the symbols that he attempted to create, like the meaningless Japanese letter. It was his finger's touch that told him what was there and what was not there and consequently enabled him to establish a memory involving connection of the two facts. Jonathan repeatedly extended and retracted his finger until he could form a memory of his finger and use words to say that the lego was there and then lost and then there again. For both children, the mnemic image (or "mnemic feeling") was not imagined or hallucinated; instead, the sense of gratification was effected by a tactile process that could also function as a mode of reality testing and as a motoric reaction formation to intense affectomotor states (panic? rage?).

The concept of sensorimotor primary process functioning also clarifies the children's responses to the initial triggering stimuli, namely their reactions to the missing lego and to my broken arm. Regressive illogical sensorimotor thinking led to regressive evaluation of the danger situation (Schur, 1953). Fenichel wrote: "Primitive perception is precisely characterized by its closeness to motor reaction. One perceives by first changing one's body through the influence of the perceived object -- and then taking cognizance of this bodily change. Many perceptions usually considered optic are really kinesthetic."(Fenichel, 1945, p. 36) Bonnard writes of similar phenomena in the

response of a psychotic child to a fan in her office. Her patient, already in a state of tension, reacted reflexively to a fan and began spinning. He could stop his "psychic vertigo" only by falling flat on his face. In Bonnard's terms, the fan, lego, and broken arm are signs in a kinesthetic language. There is a condensation of an outer sign with an inner proprioceptive state. For her patient, she wrote that the electric fan reverberated kinesthetically with his agitated kinesthetic state. Both Bonnard and Dowling describe sensorimotor primary process as being non-sequential, lacking in clear visual imagery, and mainly proprioceptive and tactile. Schur helpfully clarifies that from the beginning both the id and the ego make use of certain apparatuses including perception and memory traces, and that both the id and the ego each evolve from the interaction between innate, maturational, and experiential factors. "Every stage of maturation and development has a self-propelling quality which results in a spiralling effect in sensorimotor perception"(Schur, 1966, p. 71-72).

According to Schur's view of the maturation of both the ego and the id, a "thing representation" derives from increasingly complex cognitive stages and makes use of increasingly elaborate perceptual processes. One hypothesis is that these modes of sensory apperception and of more complex modes of representation can be organized into various schema (Horowitz, l972) that can be used by either the primary or the secondary process. Secondly, whether they are used by primary or secondary process depends on the ability to use sensations, affects, and other thought activity as signals. In both night terrors and panic states, there is an inability to use either physical sensations or affects as signals or to use movement voluntarily. {Further, Dowling writing of night terrors, and Bouchard conceptualizing seizures, use the same psychodynamic construct to describe how perceived stimuli are not blocked out or channelled in a way such that they can be used as signals. Both write that the response goes directly from perception to motor discharge, bypassing the ego. Night terror is characterized by "sudden arousal or rapid transition from deep sleep toward wakefulness" during stage 3-4 sleep. The preceding mental content may touch upon an intense conflict area, "producing a terrifying image or thought, suddenly igniting the intense panic" (Fisher, 1974, p. 174 and p. 184-185; see also 1973, p. 95). Dowling writes that in this confused arousal state, "integration, orientation, and other regulatory mechanisms of the ego are virtually inoperative" (Dowling,1982, p. 288). Fisher's dream research further clarifies the differences between anxiety as an ego response(cf. Freud, 1926), and panic (Fisher, 1993; p. 91-94). He indicates that even in nightmares containing "agonizing dread", anxiety is still maintained at a signal level psychologically and physiologically. In contrast, the panic state of night terrors contains "extreme degrees" of autonomic discharge and hypermotility; physiological regression includes precipitous increases in respiratory and heart rates, and psychological regression leads from present danger to the original traumatic situation. For Jonathan and Sonia, access to motility was highly restricted in their daily lives so that action as a response to panic may have been terrifying in itself.

It is remarkable that as early as 1900, Freud wrote that it is the ability to block out stimuli and to use signals that enables secondary process thinking to take place. "The inhibition of unpleasure need not, however, be a complete one: a beginning of it must be allowed, since that is what informs the second system of the nature of the memory concerned and of its possible unsuitability for the purpose which the thought-process has in view"(p. 601); "thinking must aim at freeing itself more and more from exclusive regulation by the unpleasure principle and at restricting the development of affect in thought activity to the minimum required for acting as a signal"(1900, p. 602). He used the concept "inhibition" to describe how internal stimulation could be kept at a signal level. Freud wrote that it is the task of the moment "to bring regression to a halt before

it becomes complete, so that it does not proceed beyond the mnemic image, and is able to seek out other paths which lead eventually to the desired perceptual identity being established from the direction of the external world." He goes on to write that this inhibition is the task of a second system "which is in control of voluntary movement - which for the first time, that is, makes use of movement for purposes remembered in advance" (1900, p. 566). It was Fenichel who described how a motoric pathway could effect selective inhibition of stimulation. Fenichel wrote of the critical step when the organism is able to protect itself from too much stimulation by being able to shut off the function of perception. "The perceptions take place rhythmically, obviously under the influence of centrifugal (motor) throbs of cathexes, which may be regarded as a first attempt at mastering the outside world". The passive sensorium is thus transformed into an active perceptual apparatus which can then block out, channel, and form the basis of a memory system(Fenichel, 1945, p. 36). Bonnard's patient reacted passively to the whirling fan by changing his body through the perceived object but he could only shut off perceptual stimulation in a massive way by falling down. In contrast, Jonathan and Sonia were able momentarily to focus attention exclusively on their hands and then to halt their frenzied hand movements and achieve *voluntary* control and mastery over their fingers. Bonnard writes that the therapeutic task is to support the regulatory mechanisms, "to orientate them (these children) to themselves at all cognitive and sensory levels, so that their emotional arousals should become increasingly congruent with the actuality of their current experiences"(Bonnard, 1967, p. 215).

Underlying Jonathan's and Sonia's panic reactions and their instantaneous sensorimotor solutions were intense feelings of both pleasure and fear within the therapeutic situation. The corresponding sessions followed holiday interruptions in treatment, and the children returned feeling disoriented and unprepared. The vacations were preceded by sessions in which the children clearly expressed affectionate attachment to me and pleasure and physical safety in the sessions. Their ability to calm themselves was connected with some capacity to achieve drive fusion and to use their hands in nonaggressive and desexualized ways in the service of mastery (Furman, 1985). Both children had previously used their hands very aggressively (stabbing with a pencil). Although there has been little discussion of the drive aspects here, Schur, who worked psychoanalytically with medically ill people, wrote of the recurrent constellation of failures in neutralization, somatization, and primary process thinking.

{These observations raise questions about the possible mechanisms involved in the children's panic states as well as in their seizure patterns. In neurology, psychological functioning is often a neglected aspect of diagnosis, treatment, and research. Solms (1993) found that synthesizing findings from child development and neuroanatomy helped explain the relationship of symptoms in Gerstmann Syndrome which affects mental representation of the hand, symbolic cognitive processes, and spatial orientation. His methodology and findings are relevant here. Like Post and Merzenich, he writes of the intricate "imprinting" relationship between particular environment and particular nervous system and "how even such elementary functions as depth-perception and colour-vision fail to develop normally if appropriate environmental stimuli are not encountered...."(p. 163).}

On an abstract level, these clinical experiences lend themselves to thinking about the relationship between neurological and psychodynamic processes: understanding the material from all the psychoanalytic points of view (economic, structural, dynamic, genetic, adaptive) is not inconsistent with identifying and ascertaining the neurological events, and it may broaden the scope to consider the neurological processes as a sixth point of view. Conversely, the classical neurological approach is insufficient to account fully for what is observable.

Conclusion

What the psychoanalytic process can do by tracking and verbally noting the correlations between the cognitive, affective, and motoric aspects of an experience is to help these children gain voluntary control of themselves. Two children with the "falling sickness" came to exhibit a body-ego defense enabling them to calm themselves. This defense provided an alternate pathway to achieve orientation and safety and to further reality testing; motor, sensory, affect, and symbolic schema could then be used at the secondary process level. Following the panic sequences, the subject of "falling" entered their communications in many ways as they psychologically mastered and worked through the various functions and memories of falling. Ondaatje describes his protagonist "blunting out the seconds of pure fear when he could not use his arms," blunting out the perception of the "half-second fall....." When assured that they could be safe, the children did not have to blunt out consciousness, but could express a wide range of conscious thoughts about falling.

Freud's fascination with the Moses statue and his detailed observations came during the time when he himself suffered from loss of consciousness in his fainting spells. Freud had his third attack on November 24, 1912 and it was during 1912 and 1913 that he planned and wrote his paper on the Moses statue.

Bibliography

American Psychiatric Association: *DSM-IV*. Washington, D.C., 1994.

Bonnard A. (l967) Primary process phenomena in the case of a borderline psychotic child. *Int. J.Psychoanal*.,48: 221-236.

Bouchard, R. (l975). *Childhood Epilepsy: A Pediatric-Psychiatric Approach.* New York: Int. Univ. Press.

Bruner, J. (l983). *Child's Talk: Learning to Use Language.* W.W. Norton, New York.

Clerk, G.(l972). An ego psychological approach to the problem of oral aggression. *Int. J. Psychoanal.,* 53:77-82.

Dowling, S.(l982). Mental organization in the phenomena of sleep. *Psychoanal. Study Child,* 37:285-302.

Fenichel, O. (1945). *The Psychoanalytic Theory of Neurosis.* W.W. Norton and Co., New York.

Fisher, C., Kahn, E., Edwards, A., & Davis, D. (1973). A psychophysiological study of nightmares and night terrors: II. *J. Nerv. Ment. Dis*., 157:75-98.

Fisher, C., Kahn, E., Edwards, A., Davis, D., Fine, J.(1974). A psychophysiological study of nightmares and Night terror: III. *J. Nerv. Ment. Dis.*, 158:174-188.

Fraiberg, S, and Freedman, D. (l964). Studies in the ego development of the congenitally blind child. *Psychoanal. Study Child*, l9:113-169).

_____(l967). The analysis of an eight-year-old girl with epilepsy. In *The Child Analyst at Work,* ed. E. Geleerd. New York: Int. Univ. Press.

Freud, A. (l979). Child analysis as the study of mental growth, normal and abnormal. *The Writings of Anna Freud.* 8:ll9-136.

_____(l983). Problems of pathogenesis: introduction to the discussion. *Psychoanal. Study Child,* 38:383-388.

Freud, S. (l900). *The interpretation of dreams. S.E.* 4 & 5.
-_____(l9l4) The Moses of Michelangelo. *S.E*. 13.
_____(1926). Inhibitions, symptoms and anxiety. *S.E*. 20.
_____(l928), Dostoevsky and parricide. *S.E*. 21.
Furman, E.(1985). On integration, fusion, and feeling good. *Psychoanal. Study Child,* 40: 91-110.
Gottschalk, L. (l956). The relationship of psychologic state and epileptic activity: Psychoanalytic Observations on an Epileptic Child. *Psychoanal. Study Child,* 11:352-380.
Greenson, R. (l944) On genuine epilepsy. *Psychoanal. Q*. 13:139-159.
Greenspan, S. (l981). *Psychopathology and Adaptation in Infancy and Early Childhood: Principles of Clinical Diagnosis and Preventive intervention.* Madison, Ct.: Internat. Univ. Press.
Hartmann, H., Kris, E., Loewenstein, A.(l949). Notes on the theory of aggression. *Psychoanal. Study Child,* 3/4:9-36.
Hendricks, I. (1940). Psychoanalytic observations on the aurae of two cases with convulsions. *Psychosomatic Medicine* II:43-52.
Hoffer, W.(l949). Mouth, hand, and ego-integration. *Psychoanal. Study Child*, 3/4:49-56.
Horowitz, M. (1972). Modes of representation of thought. *J. Amer. Psychoanal.Assoc.,* 793-819.
Kandel, E. (l992). The biological basis of learning and individuality. *Scientific American,* 267:78-86.
Kardiner, A. (1932). The bio-analysis of the epileptic reaction. *Psychoanal. Quart.*, l:375-483.
Mittelmann, B, (l954). Motility in infants, children, and adults: patterning and psychodynamics. *Psychoanal. Study Child*. 9:142-177.
_____ (1955). Motor patterns and genital behavior: fetishism. *Psychoanal. Study Child:* 10: 241-263.
_____(1957) Motility in the therapy of children and adults. *Psychoanal. Study Child:* 12:284-319.
Post, R.(l992). Transduction of psychosocial stress into the neurobiology of recurrent affective disorder. *Am. J. Psychiatry*. 149:999-l010.
Schur, M. (l953). The ego in anxiety. In: *Drives, Affects, Behavior,* Vol. 1, ed. R.M. Loewenstein. New York: Internat. Univ. Press.
_____(l955). Comments on the metapsychology of somatization. *Psychoanal. Study Child,* l0:ll9-164.
_____(l966). *The Id and the Regulatory Principles of Mental Functioning.* New York: Int. Univ Press.
_____(1972), *Freud: Living and Dying.* New York: International Universities Press.
Solms, M. (1993). Summary and discussion of the paper: 'The neuropsychological organization of dreaming: implications for psychoanalysis'. *The Bulletin of the Anna Freud Centre*: 16(2):149-165.
Sperling, Melitta.(1978). Psychosomatic Disorders in Childhood. New York: Jason Aronson.
Williams, D., Pleak, R., Hanesian, H. (1996). Neurological disorders, in *Child and*

Adolescent Psychiatry: A Comprehensive Textbook, ed. M. Lewis. Williams and Wilkins, p. 636-650.