Amer. J. Orthopsychiat. 39(5), October 1969

DIFFERENTIAL ASSESSMENTS OF "BLINDISMS"

Marguerite A. Smith, Ph.D., Morton Chethik, M.S.W., and Edna Adelson, M.A.

Department of Psychiatry, University of Michigan, Ann Arbor, Michigan

"Blindisms" refers to repetitive or bizarre behaviors occurring in the blind population. Often seen as inevitable, their etiology and psychological significance has received little attention. A longitudinal study of infants blind from birth offers examples of adaptive, transitory, and pathologically fixated "blindisms" with etiology comparable to related behaviors in sighted children.

Anyone who works with blind children shortly becomes aware of the existence of a number of repetitive, stereotyped, or idiosyncratic activities that are commonly grouped under the heading of "blindisms." This term includes a wide variety of activities, ranging from minor head and hand motions (e.g. head turning, eye rubbing, unusual hand postures) through varied rhythmic postural activities (body rocking, rhythmic swaying) to highly complex, ritualistic patterns reminiscent of the activity of severely disturbed (autistic, schizophrenic) children or adults.

These behaviors have been a continual puzzle to workers with the blind, and many attempts have been made to understand them and to evaluate their relative importance in the overall functioning of the blind person. Frequently such behaviors do not come to the attention of professionals working with the blind children until the child is approaching school age, and so reports and observations of so-called "blindisms" rarely extend to ages below these earliest school years. There has, therefore, been little opportunity to consider the possible etiology of behavior patterns of this sort in the earliest years of life.

For the past three years, the Child Development Project at the University of Michigan has been engaged in a longitudinal study of infants blind from birth. This project was designed by and is under the direction of Selma Fraiberg of the Department of Psychiatry at the University of Michigan, and is a continuation and extension of Mrs. Fraiberg's work with blind children begun in 1960.[6, 7]

The babies selected for this study are

Presented at the 1969 annual meeting of the American Orthopsychiatric Association, New York, N.Y.

either totally blind or have minimal light perception. As far as can be ascertained through complete medical examination, the babies have no other sensory deficits and no signs of central nervous system damage. The babies are followed through twice monthly visits to the home, during which time film records are obtained and continuous observational notes of the babies' behavior are taken by a trained observer.

In the course of this longitudinal study of infants blind from birth, we have observed over a period of time behaviors that have similarities to those typically called "blindisms" in older children. An intensive examination of our case records and films, with the aim of charting the onset and character of mannerisms like those described above, has led us to some interesting observations and to the formulation of some tentative hypotheses regarding their meaning and relationship to the developmental problems of the blind child.

While such mannerisms seem to have a certain similarity across a population of blind children, a careful examination of typical behaviors in each child over time (during the first three years of life) indicates that the problem of origin and meaning of such mannerisms is a highly complex one and varies greatly from child to child. In our own sample of 10 infants, frequency of occurrence of such behaviors ranges from one child who showed none at all over his first two years, to one child who, in his second year, became markedly engrossed in a series of stereotyped, repetitive activities that persisted over many months and usurped a major portion of his attention and energy. Between these two extremes, there are instances of a variety of behaviors similar to "blindism" behaviors that occur at particular times and for varying lengths of time in the individual child's history.

As a basis for the consideration of the diverse origins and the possible meanings of so-called "blindisms" we have chosen illustrative case materials from the histories of three congenitally blind infants who have been followed by the Child Development Project from some time in their first year of life through the succeeding one to two years, depending on the time of the child's referral to the project. The examples chosen represent three quite different behavior patterns each bearing little resemblance to the other. In each case, however, we began to see that if these behaviors were to persist over a two-to-three year period, they would develop into firmly entrenched mannerisms or sets of mannerisms that could fall under the general classification of "blindisms."

KAREN

When we first saw Karen at 11 months of age, we were very concerned about her hands. They looked peculiar, useless, almost dead. Most of the time they were up near her shoulders, bent back at the wrists, half-closed. Occasionally when she was upright, she swept at the space behind her head in a strange, apparently purposeless way. To us, this hand posture and arm motion were potential danger signs. They indicate, too often, a long history of inadequate or insufficient contact with important love objects and a related inadequacy of experience in using the hands to explore and to learn about the world around her.[8] If intervention were not effective soon, it seemed all too likely that Karen would become increasingly out of touch with her environment and thus increasingly

unresponsive to efforts to help her.

Karen is a retrolental fibroplasia baby. She was premature and very small at birth, weighing only two pounds, three ounces. Her smallness and prematurity caused her parents great anxiety. It was two months before they were permitted to take her home from the hospital. Another two months passed before they learned that she was blind. The parents cared for her as best they could, but with no experience, with no help or advice, and unfortunately with little intuitive feeling for the needs of an infant, this young couple unwittingly created an extremely monotonous and understimulating world for their firstborn child.

Karen was stiff and uncomfortable when held, so they handled her as little as possible. They fed her with a propped bottle, kept her warm and dry, and felt that she was an undemanding baby and easy to care for. Since they thought all babies did nothing but eat and sleep for the first year, they had no way of knowing how far behind Karen was falling in her development. As her first birthday approached, however, they began to be concerned about her. They worried about whether she would learn to walk or talk as she should, and about other things as well. For instance, there was nothing she seemed to care about. She did not search for things she dropped, and she seemed generally unresponsive to toys or other objects around her. At 11 months, Karen still slept all night and most of the day.

When she was awake, she spent most of her time in her several infants seats (a wind-up swing, a rocking horse chair, and a bouncing seat). In these seats, there was nothing to play with; toys would immediately fall from the narrow trays and there was no way for her to find them. Sucking on her pacifier, she clutched the cross bar in front of her and rocked or bounced, and often she seemed frightened when put down elsewhere. While Karen was held on her mother's lap, at our request, she seemed both apprehensive and uneasy. When Karen grew tired or bored with her activity in the infant seats, she was returned to her crib to sleep some more.

If Karen's hands offered us our first clues to her past difficulties, they also gave us indications of change and progress through the next half year. During our weekly visits to Karen and her mother, we took every opportunity to demonstrate that Karen could be perceptive, that she was interested in toys, that she did care and try. At first the signs were tentative and hard to notice unless watched for carefully. Sometimes they were difficult to understand for the reaching attempts they really were.

This was especially so with the odd sweeping gesture Karen made behind her head when she was in a standing position. For several weeks it remained incomprehensible to us. Then, one morning, after Karen had lost her uneasiness about playing on the floor, she lay there on her back shaking a rattling block. It fell from her hand, landing beside her ear. She moved her arm repeatedly back and forth between her shoulder and her head, trying to grasp the block which she could feel with her fingertips. Karen, with many months of experience on her back, was conducting a perfectly good search, a search based on past successes with fallen bottles and pacifiers.

We did not appreciate what we had seen until later during the same visit. After Karen had played with a musical rattle while lying on her back on the floor, it was taken from her and made

to sound beside her. Lured by the musical notes, she rolled over to her stomach. The rattle was then shaken in front of her. Karen accurately located the rattle by the sound, stretched her arm straight toward it, touched it with her fingertips, but couldn't quite take hold of it. Then a curious thing happened. Instead of reaching again to the spot where she had just encountered the rattle, Karen bent her arm and brought it back, to move her hand between shoulder and head. It was another attempt at a search, quite useless under the circumstances, yet she repeated it even when the rattle was again sounded and she had reached once more to touch it. In Karen's limited world there was one place where you could be certain of locating something. Supine, in her crib, fallen things came down behind her, toward her back. She had not yet caught on to the new relationship between her body, the floor, and the toy when she was prone. Although the floor was now beneath her stomach instead of her back, she still directed her search toward her back.

Perhaps then this particular behavior, waving her hand between shoulder and head, which seemed meaningless when Karen was upright, and which was obviously unadaptive when she was prone, had originated as an adaptive and successful search pattern, well-developed in the months she spent lying supine. As Karen was placed in new play situations, as she began to enjoy a variety of toys kept within easy reach in a playpen, as she experimented with sitting free, rolling, creeping, and pulling up, she quickly learned what worked and what didn't, and the sweeping arm gesture, as an inappropriate action, was never seen again.

However, changes in Karen's half-closed upraised hands came more slowly. For almost half a year her grasp remained clumsy and immature. Her stiffly extended thumb was not used at all. Her fingers moved as a single unit, pressing against the palm when she wanted to hold something. Sometimes it seemed as if her fingers had never completely unfolded from their neonatal posture. At other times we wondered if her hands were permanently positioned to grasp the infant seat rails, turned back at the wrist, clenched in pantomime around the familiar bar.

We encouraged the mother to engage Karen's hands at midline with specific toys or hand play, but these suggestions often met with little or no success. The mother was unfamiliar with such infant play and seemed unwilling or unable to improvise hand games. We suggested patty-cake as a lap game her mother could teach to Karen. They could enjoy it together and it involved open hands. When we next came, we did see Karen patty-cake, but in her own way: clapping her fists together so that the backs of her folded fingers met, instead of her palms.

Changes were slow, but in time they did occur. Karen played happily in the playpen, but after awhile she had explored all its possibilities. She began to enjoy moving around the living room and from there she rapidly found her way through the entire house. She slept less and was more alert and vigorous. She was busy all the time she was awake, and her hands became increasingly involved in her activities. They were automatically used to help her get around, either for crawling, or in pulling up and balancing on furniture. In these situations, a fisted hand would be both uncomfortable and a hindrance. Karen

opened her fists. As more and more interesting things came within reach, she brought her hands together to manipulate and explore, to discover the qualities and details of each item. By 16 months, we seldom saw them aloof and apart.

Now Karen is 2. If the old hand posture occurs, it seems to be when she is uncertain or afraid—when there is a momentary confusion around her, when a stranger approaches, or when her mother scolds her sharply. Karen quiets and her hands briefly come up to shoulder height, or to her eyes. There is a pause, a moment to size up the new event. Then her hands relax and are lowered, and Karen sallies forth to join in whatever is going on.

The incomprehensible sweeping gesture has disappeared many months ago, and now the odd and awkward hand postures are almost a thing of the past. If Karen's development had not been altered, it is likely these behaviors would have persisted in their inutile forms. Seen several years in the future, they would have been difficult to understand —and even more difficult to change.

JOAN

Body-rocking is one of the most frequently mentioned repetitive behaviors of blind infants, and one which is never absent from descriptive listings of typical "blindisms." Joan, whom we have followed from early infancy, became a vigorous "rocker" in the latter half of her first year. We have been able to trace carefully in this child the initial onset of the rocking behavior, the conditions under which it would occur, and the characteristic pattern of the behavior until it disappeared.

We initially came to know Joan when she was 5 weeks old, following a diagnosis at our hospital of acute infantile glaucoma. The medical prognosis was that Joan would retain at best only a limited degree of light perception. Otherwise she was an intact, healthy, full-term baby. She has been followed by our project for almost the full 16 months of her life.

Joan was an illegitimate child in a loosely held together extended family of marginal socioeconomic status. Her mother was an affectively vague girl who seemed even younger than her 17 years. The household was fraught with many problems. Nevertheless, the mother and grandmother both became adequately involved with Joan and shared in the early care and feeding of the infant.

During the first half of Joan's life, her development was very uneven. On one hand, she was alert, responsive, smiled in response to family members at an early age, and accomplished all gross motor milestones (control of head lag, body control, independent sitting) well within our expectations for blind infants. However, her range of vocalizations was poor and her adaptive hand behavior seemed to lag.

It is important to note that pain was prevalent during Joan's early months. Interocular pressure, associated with the glaucoma, was difficult to control and required five separate surgical interventions before it was significantly modified when Joan was 6 months old. Intense crankiness and irritability characterized Joan during the months before the pressure was under control, and the only successful method of comforting her was through continuous rocking. Thus a major form of Joan's early contact with her important objects, a contact which provided some respite from pain

and displeasure, was through the tactile and kinesthetic experience of being rocked.

Joan's own self-initiated rocking began when her motor development had progressed to the point of steady, independent sitting at about 6 months of age. For the next half year, Joan was a vigorous "rocker." The rocking always took the same form—sustained, repetitive back and forth movements which involved the entire upper half of her torso. Her rocking reached a peak during the 6-to-9-month period, and slowly abated during the last few months of the first year. A final vestige of this behavior—lateral swaying while standing—emerged as Joan was attempting to take her first steps. This last form of rocking disappeared when she began to walk in a proficient and independent manner at about twelve and a half months. As we studied Joan's rocking during this 6-month period, we noted that it appeared in several different contexts, and we attempted to follow and understand its vicissitudes.

Initially, we noted that Joan's rocking was often associated with frustration. When her nap was overdue, when lunch was delayed, or when she was exposed to a fairly intense light (which was uncomfortable for her), she would often start to rock. Her back and forth movements were accompanied by signs of displeasure, such as frowning, crying, or whining. Again in our testing situations, where some degree of frustration is unavoidable, we could observe the point at which rocking would commence. For example, when a valued item was removed from her grasp in the course of a test series, she characteristically began to rock just as the toy was removed. When we offered her a new and strange object to explore, this new experience would bring a troubled expression to her face and simultaneously rocking would begin. If, in her own play, she dropped a favorite toy by mistake, even as she tried to retrieve it, she would begin to rock.

Joan's rhythmic rocking was not self-absorbing or preoccupying, nor did it interfere with her interaction with people or objects. She continued to be outwardly directed and interested. She continued her search for the lost item or she continued to explore the new strange toy that was offered her, even as she rocked. It seemed to us that Joan had found her own particular means of reacting to frustration and anxiety. She was now able to actively make use of rocking as a solace, duplicating a previous comforting activity that had been experienced passively in the arms of the mother or grandmother.

There were other situations in which Joan was observed to rock that didn't seem to be associated with frustration. On several occasions during our visits, we noted that she began to rock when her mother moved her from one piece of furniture to another. Under these circumstances, as she rocked back and forth, her trunk came into frequent contact with the back of the furniture on which she sat. Her hands remained in her lap or at her side, not involved with exploring her new surroundings. At these times, signs of displeasure and anxiety were missing. It seemed that the rocking now had a different meaning to her. As we watched her, we began to feel that the repeated bouncing against the back of the chair or couch was providing Joan with information. We felt that through the rocking activity, Joan was attempting to become more aware of the limits of

her new surroundings. When the rocking occurred in this context, therefore, it seemed to serve as a form of orientation, providing her with increased knowledge of her external surroundings.

In the last quarter of the first year, as Joan became more mobile, rocking became less frequent. Its final form (lateral swaying while standing) occurred when Joan was at the brink of independent walking. She was clearly in a transitional phase of motor development. She was totally able to balance herself in a stand; she took small marching steps in place; she seemed intent on moving forward, but couldn't quite push herself to do it. As one observed her struggle with this important transitional step, one could note a generalized tension mounting throughout her musculature. On the edge of walking, but not quite able to move forward, she would experience a tension which could not be released in the wished for action (walking). Rocking and swaying seemed to serve the purpose of intermediate discharge of these accumulated energies in such a way as to facilitate her progress through this difficult period. As a coordinated pattern of walking began to emerge, the swaying activity became less frequent. By the time Joan had achieved a smooth independent walk, and the degree of autonomy that went with it, the rocking behavior disappeared altogether.

Rocking seemed to serve varying functions for Joan during the second half of her first year. It served to reduce tension during periods of stress and anxiety; it duplicated a comforting rhythmic actively experienced through the earliest months of infancy; it helped her orient herself to new surroundings, and became an adaptive means of discharge through a difficult transitional stage of development. In this child, who successfully negotiated these milestones of development, it seemed to have little if any pathological implication, but rather to serve helpful and adaptive functions in her progress toward independence and autonomy.

RICHIE

Our final case history is that of a well-stimulated, intelligent child who, toward the end of his first year, became absorbed in a series of repetitive, stereotyped activities that increasingly usurped his total waking hours.

Richie's eye condition was recognizable at birth and was diagnosed as resorption of the vitreous humour at the time of the examination at University of Michigan Medical Center when he was 3 weeks old. He has been followed by our project since this initial visit to the University Hospital. There has never been any possibility of vision, even of the most limited light perception. This child is totally blind.

Richie was a full-term baby, alert and active, and apart from the blindness, a healthy, well-formed infant. He is the only child of a couple in their late twenties. His parents are well-established financially and felt they were in a position to offer Richie every opportunity to develop his potential.

Richie's development through the first months of life was excellent, paralleling norms for sighted children in almost every respect. He was a lively, interested, responsive baby. A first tentative smile was noted at 23 days in response to mother's talking to him. Gross motor development seemed to progress with ease, proceeding to a complete independent sitting position at 7½ months.

Particularly noteworthy was Richie's

superior hand development and his interested exploration of new toys and objects. He was also an athletic little boy and seemed to enjoy his body activity. A cradle gym over his crib provided him with a great deal of active pleasure. He appeared to manage his body well. He was skillful in the use of his feet in combination with his hands in complicated operations such a retrieving a play object that had rolled away from him. He was among the youngest of our children to achieve a coordinated reach on sound cue alone.

The first signs of difficulty were very subtle ones. While Richie sat firmly at 7 months and would engage in play with toys for quite extended periods of time in this position, he seemed to do so with less pleasure and variety than had characterized his play activity in former months. Moreover, after he had demonstrated his ability to sit independently for something like two weeks, his mother suddenly became anxious about the possibility of his falling backward, and insisted on placing a pillow behind him on the floor. At the same time, both parents began to express concern that he was not progressing as fast as he should, especially in the area of motor development—e.g. creeping, standing.

All our efforts to reassure them were to no avail. During the next few weeks, we became increasingly aware that the anxiety of the parents over the child's progress was pushing them to react in two opposing ways. On the one hand there was an increasing overprotectiveness and, at the same time, an anxious pushing forward toward greater motor achievements—e.g. putting him through the motions of a crawl or walk.

Between 9 months and a year, there was a dramatic change in his overall behavior. Motor development came to a complete standstill and a marked resistance to gross motor activity became apparent. Attempts to encourage such activity by the parents (which we were unable to reverse) met with what can only be described as flat refusal. He began to demonstrate a persistent desire to lie on his back in preference to any other position. He was observed to be increasingly melancholy and irritable and only responded with open pleasure to games that involved close bodily contact with either father or mother. These games were always accompanied by a high level of excitement. With father, this was most often associated with the kind of excitement that verges on fear —i.e. when father would toss him in the air or swing him vigorously upside down. With mother, it had more often the quality of erotic excitement—i.e. energetic tickling games, or kissing and nuzzling games. With either parent, there was an intense enjoyment of having his body passively put through rapid activity, such as a fast hand-clap or leg-pumping, in which the activity was completely initiated and controlled by the parents.

At the same time, his play with toys became increasingly constricted and shortly was almost completely limited to prolonged periods of shaking two rattles in parallel position with the hands at shoulder height. Otherwise toys were most often rejected altogether. Over the next few months, in the first quarter of his second year, there was an increasing involvement in a whole series of repetitive rhythmic activities. When he was in a sitting position, these included hand-twisting at shoulder height, rapid hand-clapping, trunk rotation, and an almost continuous turning of the head from side to side (as in an exaggerated "no"

gesture). When he was on his back, the activity was typically an energetic bilaterally synchronized kicking and hand-flapping combined with a kind of "body-bumping" which was accompanied by excited squeals and laughter. There was an increase in head-knocking, first with his thumb, then with his fist.

These were not transitory behaviors. They persisted with little change throughout his second year. Attempts to interrupt him when he was engrossed in these activities were met with violent resistance and angry crying and the child returned to them as soon as he was allowed to. Constructive play with toys, as well as progress in motor development, remained at a standstill. His principal activity with toys was to throw them away with great energy, scarcely interrupting his repetitive rhythmic activity.

Interestingly enough, although this child was held and rocked for hours on end in his first year, and although the only moving infant seat he has ever made any extended use of is a small rocking chair, he has never included in his repetitive activity a body-rocking of the sort that duplicates the motion of a rocking chair. Moreover, in this chair, which is the only place where he will engage in self-initiated motor activity which does not seem bizarre or stereotyped, he has always seemed most in touch with the world. Here he will engage in talk without the ceaseless head-swinging and hand-clapping. Here he will peacefully sit and rock and listen to records, or to conversation around him; here he will occasionally accept and explore a toy. Here he has been observed to make his first, and among his only, spontaneous attempts to move from sit to stand. However, he only tolerates sitting there for short periods of time.

Because of our concerns over Richie's developmental problems, we arranged for a second neurological examination at 16 months of age. The medical opinion, confirming the original report from early infancy, was that Richie was neurologically intact and they could find no medical basis for his difficulties.

Throughout the year and a half in which these repetitive, rhythmical activities have dominated the waking life of this child, there have been some areas of development which held up relatively well. Most encouraging, perhaps, is the fact that language development seems to progress at age-adequate levels. There have also been no major disruptions in eating and sleeping patterns. He feeds himself (with fingers), enjoys a wide variety of foods, and asks for favorite foods by name. There is an increasing use of full sentences.

While there seems to be evidence of slow gains and occasional progress toward voluntary attempts to stand and walk, etc., these are subject to severe setbacks whenever there is some interruption of the daily pattern in the child's life—as, for example, when he is ill. It is notable that this child had severe illnesses more frequently than any other child in our sample, although these have never been other than those illnesses to which infants are regularly subjected—colds, intestinal upsets, and the like.

During this period and throughout his second year, we attempted to shift our relationship with the family to focus on an individual counseling relationship with the parents, providing a separate male worker for the father. We hoped to help the parents deal with the deeper anxieties and disappointments in relation

to the child which we felt were the real source of the child's developmental crisis. These efforts have met with little more success than our initial attempts to reduce the parents' concerns over the child's rate of motor development at 8 and 9 months. There was an increasing lack of synchrony between the child's actual activity and the parents' perception of it. While they often followed specific suggestions to the letter, there seemed to be no understanding of the underlying spirit, nor could we see any evidence that we had been able to penetrate the depths of their anxiety in such a way as to effect their interaction with the child.

Richie's intense absorption in this repetitive, stereotyped rhythmic activity has not served an adaptive function for him, but increasingly moves in a pathological direction. His absorption in these behaviors has led to a progressive interference and regression of serious proportion in both psychological and physical development.

SUMMARY AND CONCLUSIONS

The preceding cases describe three distinct behavioral syndromes, each of which bears some relationship to the kind of behavior associated with the term "blindism." In each case, the behavioral pattern discussed is directly related to the individual child's developmental vicissitudes and particular life situation. While blindness imposes a primary condition of deprivation on these children, the behavioral patterns discussed seem to emerge from specific circumstances of the children and to parallel in many ways the kinds of behaviors that occur in sighted children in similar life situations.[5]

The examples cited here fall into three categories: (1) conditions of understimulation and experiential deprivation, (2) problems of adaptation, learning, and adjustment at transitional stages of development, and (3) pathological reactions to disruption in the parent-child relationship.

Karen's peculiar, awkward hand-posturing and sudden odd gestures disappeared when she was given adequate stimulation, education in the use of her hands, and opportunities that made search for toys possible and rewarding. Karen's hand behavior at the time of our initial visits were similar to the awkward, peculiar fingering motions of severely deprived, institutionalized children [1, 17, 18] where equally impoverished surroundings and opportunities to learn to use their hands adaptively has led to similar distortions. Karen's home was not a richly stimulating one for any child, but the condition of blindness made Karen's life experience in this spare household one that resembles that of a child in a completely barren, institutional environment.

For Joan, the use of self-initiated rocking under situations of stress, strangeness, and momentary plateaus in development disappears as she is helped to overcome developmental obstacles, or matures and advances successfully to the next step of a developmental sequence. Rocking of the kind in which Joan indulged is not unusual in normal sighted children in similar circumstances.[2, 10, 14] Persistent and prolonged rocking has been described in the case histories of severely disturbed or deprived sighted children [1, 9, 17] as well as in numerous accounts of blind children.[13, 16] Without a complete history of antecedent events, the original connections with stress and adaptational problems are often no longer visible.

In Richie's case, blindness seems to have imposed a greater obstacle to the development of coping mechanisms or defensive adaptations to the disruption in the parent-child relationship than might be the case with a sighted child. While there are still differences between this child's psychological state and that of an autistic or psychotic child, particularly in that he seems to maintain personal relationships and reality ties to his environment, nevertheless his firm entrenchment in these stereotyped, ritualistic, repetitive activities bears a frightening resemblance to those observed in severely disturbed children [1, 11, 15] and clearly has had an adverse effect on every aspect of his development during his second year.

We cannot predict, at this time, the effects of further life experience on the future development of the three children discussed, nor can we make generalizations from our three cases to the total population of blind children, but we feel that these cases serve to illustrate something of the complexity of the problem of the origin and meaning of so-called "blindisms."

A further consideration of these behavior patterns will be dealt with in a forthcoming paper based on an extensive exploration of clinical and developmental data from the life histories of ten blind infants. It is hoped that this material will suggest directions for further research related to such behaviors, in a variety of childhood situations, and will facilitate the development of techniques for alleviating or averting these disturbing and disruptive activities in the growth and development of children with sensory deficits.

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Senior author's address: Dr. Marguerite A. Smith, Department of Psychiatry, University of Michigan, Ann Arbor, Mich. 48104