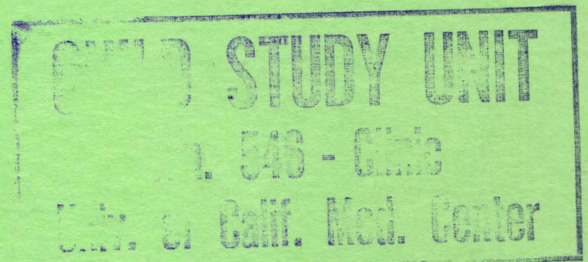
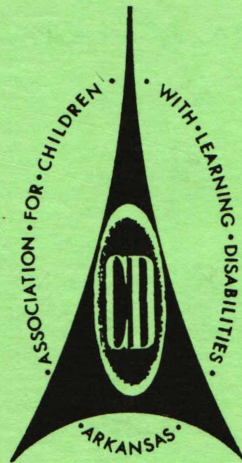


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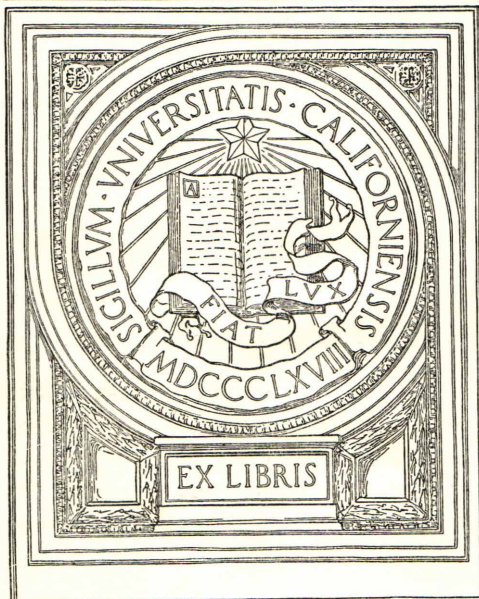
HELD AT THE
UNIVERSITY OF ARKANSAS MEDICAL CENTER
LITTLE ROCK, ARKANSAS

APRIL 28-29, 1967



Purpose of A.A.C.L.D. — To advance the education and general welfare of children and youth of average intellectual capacity who have learning disabilities of a perceptual, conceptualization, or coordinative nature and/or related behavior problems, and to do all and everything necessary, suitable and proper for the accomplishment of this purpose.

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Mailing Address:

ARKANSAS ASSOCIATION FOR CHILDREN WITH LEARNING DISABILITIES, INC.,
DRAWER A - PULASKI HEIGHTS STATION
LITTLE ROCK, ARKANSAS 72205

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IDENTIFICATION OF THE CHILD WITH LEARNING DISABILITIES

by

Sam D. Clements, Ph.D., Associate Professor, Departments
of Psychiatry and Pediatrics, University of Arkansas
Medical Center, Little Rock, Arkansas 72205

IDENTIFICATION OF THE CHILD WITH LEARNING DISABILITIES

Sam D. Clements, Ph.D.,
Associate Professor, Departments of Psychiatry and Pediatrics
University of Arkansas Medical Center, Little Rock

Our clinical concern is for that large group of children and youth who are of apparent good general intelligence, yet who fail to progress in academic skills at the expected rate. Not only do these youngsters experience learning disabilities, but they exhibit behavioral differences which are a source of irritation and bewilderment to parents, teachers, and playmates. Some of these children are relegated to the special education classroom designed and operated for the mentally retarded; others are retained in grade for a year or more in the belief that they will "catch up;" some are tutored incorrectly for months on end with no appreciable gains in skills; most are passed along automatically with their age group through the mechanism of "social promotion," even though it is known that the child cannot compete academically or socially with his peers. These children are called by many names: lazy; slow-learning; immature; emotionally disturbed; under-achievers, etc. Although such terms may describe certain characteristics exhibited by the youngster at a given time, they provide us with very little useful information about him, how he got that way, or, most importantly, what we can do for him.

Identification of the child with learning disabilities depends upon a precise definition of the term. The specifying term "learning disabilities" is the educational counterpart of the medical designation "minimal brain dysfunction," which is defined as follows¹:

"The term Minimal Brain Dysfunction refers to children of near average, average, or above average general intelligence with certain learning and/or behavioral disabilities ranging from mild to severe, which are associated with deviations of function of the central nervous system. These deviations may manifest themselves by various combinations of impairment in perception, conceptualization, language, memory, and control of attention, impulse, or motor function.

These aberrations may arise from genetic variations, biochemical irregularities, perinatal brain insults, or other illnesses or injuries sustained during the years which are critical for the development and maturation of the central nervous system, or from other unknown organic causes.

During the school years, a variety of learning disabilities is the most prominent manifestation of this condition....."

If we distill this definition, we will find several fundamental components:

1. There exists in the general population a large group of children who manifest varying degrees of deviation in learning and behavior.
2. These children possess average intellectual capacity.
3. These deviations result from subtle dysfunctioning of the central nervous system.
4. Early identification, proper assessment, and the provision of appropriate educational programs are essential in order for the child to achieve the potential of which he is capable.

The following features tend to characterize the majority of children with learning disabilities:

1. Average or above intellectual capacity as determined by comprehensive individual intellectual assessment by a qualified clinician.
2. Specific learning disabilities. The most commonly affected academic skills are reading, arithmetic, spelling, and/or handwriting. There are concomitant difficulties with abstract concepts such as time and space and in mastering tasks which are dependent upon fine perceptual discrimination and intact integrative processes within the various perceptual systems.
3. Perceptual deficits may occur in one or several of the sensory channels, i.e., visual, auditory, kinesthetic, tactile, etc. Printing, writing, and drawing may be

¹Minimal Brain Dysfunction in Children - Terminology and Identification, by Sam D. Clements, Ph.D. Documental Report of Task Force One of the National Project on Minimal Brain Dysfunction (Learning Disabilities) in Children. NINDB Monograph No. 3; Public Health Service Publication No. 1415, 1966. Superintendent of Documents, U.S. Government Printing Office, Washington, D.C., 20402 (20¢)

poor for age and measured intelligence. Figure-ground and/or whole-part discriminations and relationships may also be affected.

4. Coordination deficits. The child may appear as clumsy or awkward. Motor coordination may involve either fine muscle performance such as buttoning, tying, cutting, drawing, writing, model building, typing, etc., or in activities which require gross motor coordination such as walking, riding a bicycle, swimming, baseball and other such sports.
5. Abnormal motor activity level:
 - a. Hyperactivity -- Child appears to be in constant motion, flitting from one object or activity to another; or he may display extreme restlessness. Hyperactivity can also manifest as voluble, uninhibited speech, or in disorganized thought processes.
 - b. Hypoactivity -- Child described as slow and "day-dreamy," in that he moves, thinks, and speaks at a markedly reduced rate. Often such slow-responding children will have an "aphasoid" quality in their expressive oral language.
6. Emotional lability. The child may be considered "high-strung," overly sensitive, fluctuating. He may have quick changes of emotional response from high temper to easy manageability. He may be panicked by what would seem to others as a minimally stressful situation. Such mercurial behavioral shifting is most characteristic of the hyperactive child. On the other hand, the hypoactive youngster is most commonly sweet-and-even tempered, cooperative, diligent, and displays a high tolerance for failure and frustration.
7. Short attention span and/or distractibility. The child is unable to concentrate on one activity for the length of time appropriate for his age and intelligence. He is drawn to irrelevant stimuli in his environment which interferes with academic and social learning situations. Some children show a tendency to become locked in a simple repetitious motor activity or preoccupation with one verbal topic. This latter characteristic is referred to as "perseveration."
8. Impulsivity. This characteristic is again most commonly associated with the hyperactive child. The youngster

seems incapable of controlling or inhibiting his impulses to touch or handle objects when in a new or over-stimulating environment. He frequently speaks without checking himself. Such impulsivity easily leads the child into conflict with the demands for conformity as established by family, school, and society. Some of the more involved children may commit striking anti-social acts, to the point of fire-setting, stealing, etc., with only a modicum of provocation. The immediacy of the act prevents the child from foreseeing the consequences of his behavior.

9. Equivocal or "soft" neurological signs. Among the most often noted among these youngsters are: transient strabismus; poor hand-eye coordination; mixed laterality; confused laterality; speech impairment or a history of slow speech development or irregularity; developmental discrepancies; and general clumsiness.

NOTE: This list of characteristics should not be used as a checklist for a non-clinical diagnosis of minimal brain dysfunction. If can, of course, be used as the starting point of an individualized educational program for specific children who show disabilities in learning. It is important to emphasize that a given child may not have symptoms in all or even many of these areas, since each child will have his own particular cluster of symptoms (for example, reading disability, visual perceptual deficits, hyperactivity, fine motor coordination problems, and short attention span.) The level of the child's innate intelligence and the nature of his underlying temperament as they interact with various environmental factors, will determine the form and the excellence of his maneuvers to compensate for his deficits or deviations.

SCHOOL DIFFICULTIES - OCCUPATIONAL HAZARD FOR CHILDREN

by

Helen Gofman, M.D., Director, Child Study Unit, San Francisco
Medical Center, University of California, San Francisco,
California 94122

SCHOOL DIFFICULTIES - OCCUPATIONAL HAZARD FOR CHILDREN;
MEDICAL PROFESSION'S ROLE IN PREVENTION

Helen Gofman, M.D.

Adults concerned with providing for the healthy growth and development of children may feel that the child labor laws of our enlightened society have eliminated hazards, which in the past maimed many children physically and emotionally. However, the laws of our enlightened, increasingly technical society now have made going to school a compulsory job for at least 10 to 12 years for most children. We have substituted one kind of labor for another, and children today thus make up a huge compulsory labor force who are exposed to another type of occupational hazard -- that of learning difficulty. The child's success or failure during his 10 to 12 years as a student can have tremendous consequences for his emotional health and his usefulness as an adult citizen. Today the possession of a high school diploma is becoming the minimum requirement for adult employment. The fact that nationwide our high school drop-out rate is between 30-40% indicates that many of our young citizens are entering adult life with real questions regarding their own self-worth and future productivity.

There is a great gap between what our society is demanding from our young citizens and what our educational system is providing for them. Something is wrong someplace in our educational production line. There are many causes for these educational casualties. The majority show poor academic achievement. Studies throughout the United States show that as many as 30% of our country's high school students are behind in reading and spelling ability. With difficulty in reading and spelling there is hardly a high school or junior high subject in which these students can achieve success -- even shop courses require reading directions and writing reports and examinations.

Some examples of these educational casualties illustrate the serious hazards experienced by some of our student compulsory labor force. These case illustrations summarize the combined efforts of our team at the University of California Medical Center who work together in the study of children with the complaint of learning disorders. The team members who are contributing to this conference with me as their spokesman include our psychologists: Mrs. Donya Harvin, Mrs. Eva Hitchcock, Mrs. Gladys Kassebaum, and Dr. Keith Beery; our psychiatric social worker, Mrs. Wilma Buckman; our psychiatrist, Dr. Alan Leveton; our neurologist, Dr. Leon Whitsell; our speech, hearing and language consultant, Dr. Richard Flower; and most important, our educational consultant and director of our Reading and Language Development Clinic, Mrs. Alice Whitsell.

Tony, age 15 years, 9 months, in the 9th grade of one of the Bay Area high schools, was recently referred to our Department of Pediatrics Child Study Unit by his freshman English teacher, who stated: "When I introduced poetry the first week by reading some aloud, Tony proceeded to explain E. E. Cummings' poem, "Portrait of Buffalo Bill" to the class. He seemed to have imagination, an esthetic sense as well as well-developed inferential abilities. As long as we are engaged in oral work and discussion, Tony is part of the class. When we begin writing or reading, he puts his head down on the desk." She found he was almost completely unable to read or spell. He had never been a behavior problem in school (one reason he was not evaluated until so late in his school career?), and had been liked by his teachers because of his

nice manners and his willingness to cooperate. However, during the 9th grade he had been absent at least two days per week. At the instigation of his English teacher, he was tested by the school psychologist. On the Wechsler Intelligence Scale for Children (WISC) he showed the following profile:

<u>Verbal Tests</u>	<u>Scaled Scores</u>
Information	5
Comprehension	7
Arithmetic	3
Similarities	10
Vocabulary	7
Digit Span	7
<u>Performance Tests</u>	<u>Scaled Scores</u>
Picture Completion	6
Picture Arrangement	6
Block Design	7
Object Assembly	10
Coding	7

which would place him in the range of borderline intelligence. The psychologist noted that he was extremely fearful and reticent, and agreed with Tony's English teacher that these scores probably did not adequately describe Tony's true potential. Further study was recommended. Unfortunately our clinic, as is true of so many clinics in this country, has an enormous waiting list for evaluation of these children with learning disorders. Although we squeezed him in ahead of others, there was still a six weeks' wait. At the first appointment of his scheduled evaluation he joined his mother at our clinic accompanied by a security officer who brought him from a juvenile retention home, where he had been confined for two weeks after being picked up by the police for pulling a fire alarm under the influence of LSD.

Tony came from a home broken by the divorce of an alcoholic father when he was 2 years old. His mother, whose English is limited and who still has a speech difficulty in Spanish, as well as English, is the sole support of her three children. Tony is the middle child, with an older sister and younger brother. After the divorce his mother took the children to her home in Nicaragua and returned to the Bay Area when Tony was 6 years old and ready to start 1st grade. He could speak only Spanish and began his job of learning to read with not only the handicap of specific dysfunctions (still apparent at age 15) in perceptual motor ability, and poor small motor coordination, but also the added handicap of having to learn English -- not unusual in many urban communities in this country. He was placed back in kindergarten, but still had great difficulty with reading and writing in 1st grade. Despite this he was promoted each year and was considered by the school to be a dull but earnest student. In Sylvia Richardson's words, this lad represents an example of a sizable number of children who are "smuggled through our school system" with disastrous results. His mother, because of her poor English and her own difficulty with reading and spelling, was unable to help him. In her bewilderment and frustration she constantly accused him of being lazy with his school work -- although she stated that he was not lazy about jobs around home.

Tony became progressively more embarrassed by his reading and spelling difficulties and began to stay home on days of tests because, to quote him, "I felt sick at the thought of sitting in class unable to write anything on

paper when all others around me were writing answers and looking at me just sitting there." He tried to hide his reading and spelling problems from most of his friends -- a difficult job when you consider how we are surrounded by signs - none of which Tony can read. Tony, like most teenagers, had heard many fantastic tales about the effects of LSD. As he said, "I was partly curious, but also I heard it was a mind expander and some of my friends who know about my trouble reading said maybe it would help me with my reading. So I tried it. But it didn't help and I had a bad reaction."

On testing Tony, using the Wide Range Achievement Test, he obtained the following grade levels:

Word recognition	1.9
Spelling	1.8
Arithmetic	5.0

He read "drib" for "bird", "bees" for "seed". His listening comprehension was at least 5th grade level. He showed severe problems in visual motor function (Bender Gestalt - 9 year level), in auditory discrimination (significant errors at the 6 year level on the Wepman), and in visual memory. His small motor coordination was very poor. He impressed the five members of our staff who saw him as an intelligent boy in his oral conversation in contrast to his low scores on formal testing.

Maybe Tony's recent behavior represents a desperate cry for help. We are making this interpretation. Rather than sending Tony to a California correctional institute, which his probation officer stated could provide little help for reading problems (one of the primary needs of many of these delinquent boys), he is being allowed to stay at home on probation. His many teachers are now sensitive to his difficult learning problems and he is going to enroll in a class in our Medical Center's Reading and Language Development Clinic, along with counseling help.

In contrast to Tony, John, a member of a well-educated, stable family, came to us at the end of the 6th grade with a history of difficulty in reading since starting school. He was no behavior problem but he was becoming morose; frequently he stated to his parents that he must be stupid. He was presenting symptoms which led his pediatrician to perform diagnostic tests to rule out a peptic ulcer. On the Wide Range Achievement Test he was reading at 3rd grade level, spelling at 3rd grade level, and performing arithmetic at 6th grade level.

John on psychological testing showed overall bright intelligence but much variation on subtests of his different abilities; 10 being the subtest average, he ranged from 16 to 7. WISC scores for John, age 11 years, 6 months:

Verbal Scale I.Q.	116
Performance Scale I.Q.	113
Full Scale I.Q.	116

<u>Verbal Tests</u>	<u>Scaled Scores</u>
Information	14
Comprehension	15
Arithmetic	9
Similarities	16
Vocabulary	15
Digit Span	7

<u>Performance Tests</u>	<u>Scaled Scores</u>
Picture Completion	14
Picture Arrangement	10
Block Design	14
Object Assembly	13
Coding	8

Figure 1 is an example of the written work of this very intelligent boy.

Frank, age 13 years, 1 month, came to us from the 7th grade because of severe behavior and learning problems and was skipped to the 8th grade while we were evaluating him. (He had been held back in 5th grade and his junior high school counselor said he seemed to be an intelligent boy who should be with his age group!)

Frank did score a Full Scale I.Q. of 100 on the WISC, but showed great variation in the subtests making up this I.Q. of 100. WISC scores for Frank, age 13 years, 1 month:

Verbal Scale I.Q.	82
Performance Scale I.Q.	118
Full Scale I.Q.	100

<u>Verbal Tests</u>	<u>Scaled Scores</u>
Information	6
Comprehension	9
Arithmetic	9
Similarities	9
Vocabulary	7
Digit Span	3

<u>Performance Tests</u>	<u>Scaled Scores</u>
Picture Completion	14
Picture Arrangement	14
Block Design	14
Object Assembly	14
Coding	8

He was reading between 3rd and 4th grade level at 2nd grade speed, spelling at 2nd grade level, performing arithmetic at 6th grade level.

An example of his spelling is shown in Figure 2. Note the spelling of "small", an error in sequencing so frequently made by children with specific learning problems. In the second sentence he is trying to say "President Kennedy was firm in handling the Cuban crisis" -- a subject he could discuss orally with much knowledge.

The agony experienced by Frank (and Tony and John) in the school situation is apparent. These boys are examples of specific learning disorders. They each show achievement in reading and spelling far below their over-all mental abilities.

Frank along with his years of failure had become a severe behavior problem with a short attention span, restlessness, frequent fights with peers, and temper outbursts at home and at school. Frank entered our Pediatric Reading and Language Development Clinic at University of California Medical Center, where he was seen in a class of 4 to 5 members meeting an hour twice a week after school and for a 6 weeks' summer session. These classes were established

to demonstrate to our doctors in training what can be done to help these children and therefore to impress these future physicians with the importance of their role in early diagnosis. These classes are taught by teachers with special training in specific learning disorders. After a year and a half, Frank was reading at 7th grade level. An example of some of his written work is shown in Figure 3. At present, Frank is keeping his head above water in a college prep course as a Junior in high school. His mother in gratitude wrote a letter thanking the clinic. I would like to quote part of it:

"Within the first months after starting in this reading therapy, we noticed a marked difference in him. His frustrations were fewer. He went to school willingly and his next report card showed a marked improvement in his deportment. His attention span has increased steadily until he can now be kept occupied for half an hour. He has more confidence in himself; he is not on the defensive and ready to fight back all the time.

"I am sure there are hundreds of children who are considered bad or misbehaved like Frank was, but they have problems just like him. More children should be helped or found to be helped in the first stages or in the first grade, as Frank's problem should have been found. He had seven frustrating and hopeless years before his problem was found. Though he has improved remarkably in his attitudes and character because of the U.C. program, I still feel he will be marked by his terrible experience."

How could we have detected, diagnosed and treated these children earlier? How could we have prevented these "school battered children", these children maimed by their experiences in compulsory labor in school? I don't mean to put the blame entirely on the school. The medical profession should bear its share too -- pediatricians are specialists not only in their knowledge of childhood disease but also in their knowledge of growth and development, and this should include emotional and mental growth and development. We have been tardy in training pediatricians in this area of childhood medicine, and in applying this knowledge in assisting the school system in the prevention of problems such as Frank's.

It is evident that the I.Q. number alone is most insufficient in describing a child's learning difficulty, or in assisting in planning his educational program or his home management. We must consider the various strengths and weaknesses in the intellectual functions involved in learning.

What are the prerequisites for learning to read, write and spell?

The child should be able to:

1. Sit still;
2. Attend to incoming stimuli;
3. Sort visual, auditory and tactile kinesthetic stimuli from the background of distracting sight, noise and movement in the classroom;
4. Maintain some measure of impulse control;
5. Tolerate some frustration;
6. Wait a reasonable time for a gratification.

These abilities are the result of the interaction of the child's developing central nervous system function and his environment, so that lack of these abilities may result from both - i.e. the child hasn't been taught to manage these prerequisites or his developing central nervous system makes this teaching by the parents unusually difficult. Susan Grey, speaking at a symposium

on Project Head Start last spring at the University of California at Berkeley, described the enormous problem the "culturally disadvantaged" Negro preschool children in her study have had in figure-ground discrimination related to their environments. Their overcrowded one- or two-room homes present a clutter of disorganized visual stimuli and disorganized auditory stimuli (e.g., a deaf grandmother with the TV on very loud, while children and mother shout to be heard). These children, as well as the child who has difficulty attending and sorting out stimuli on the basis of central nervous system dysfunction, may find attending to auditory, visual and tactile kinesthetic cues from the teacher difficult in the usual bustle of the elementary grades.

Recent studies by Jerome Kagan suggest that both groups of these children show impulsiveness in terms of problem solving efficiency. He states:

"In problems with alternate routes to solution, reflection and evaluation of the validity of solution sequences are critical for eventual success. The child who does not reflect upon the probable validity of alternative-solution sequences is likely to follow through on the first idea that occurs to him. This strategy is more likely to end up in failure than one which involves reflection. The impulsive child who reaches a cul-de-sac in a problem-solving sequence, and recognizes that he has not solved the problem, is likely to become more anxious than he was initially. As a result of the increased anxiety, his selection of a second solution path is likely to be impaired and the probability of success attenuated. This maladaptive cycle may become entrenched with time, and after 4 or 5 years of experiencing the sequence: Problem ———> impulsive selection of invalid solution ———> failure ———> anxiety ———> selection of second solution ———> failure, etc., the child may gradually withdraw from problem situations, and apathy and hostility may become characteristic reactions toward intellectual situations."

The physician seeing preschool children should be evaluating (from questioning the mother and his own and his nurse's observations in the waiting room, as well as his office) the child's activity level, attention span, impulse control, the ability to wait for gratification and the ability to tolerate some frustration. If the child has unusual difficulty, he may be more vulnerable to school difficulty, and he and his parents may require help in this area before he is subjected to the stresses of an ordinary 1st grade (or before he stresses the teacher!).

The physician should also be aware of the central nervous system functions involved in learning to read, write and spell, since he has the first opportunity to check these functions as he follows the child prior to school entrance. He can play an important role in seeking proper consultation in evaluating specific central nervous system weaknesses or dysfunctions, and in alerting the school and parents to the child's special needs. We are just emerging from a period when learning difficulties in the child of average or above intelligence have been considered to be mainly emotional in etiology. Until recently many physicians, psychologists and educators seem to have forgotten that the brain is a thinking organ as well as a feeling organ!

What functions of the central nervous system are involved in learning to read, write and spell? My favorite way of presenting these requirements to our doctors in training, and explaining this process to parents, is to expose them to the task the 1st grader faces in learning to read and spell by making up a new alphabet so they can re-experience opening a primer for the first time: Figure 4.

Central Nervous System Functions Involved in Learning to Read, Write and Spell: the child has the task of associating his spoken symbol system (spoken language) with a written symbol system (written language).

1. Language development. A vulnerable child may be one with delayed speech development, speech difficulties, different mother tongue, different dialect from that of the teacher (e.g. the child who says "Disaball" for "This is a ball" may have much confusion when asked to associate his spoken symbol with the written symbol system).

2. Visual perception, visual sequencing, spacial relationships, left-right discrimination. The child must be able to perceive small differences in two-dimensional spacial relationships. If the example in Figure 4 in our new alphabet says

"Oh Oh look!
See the dog.
See the pig.
See them dig."

the child may easily confuse the symbol sequences for "dog" and "pig" and "dig" because of the similarities of our new alphabet symbols for "d", "b", "p", "g" and for "o" and "i". Our own alphabet presents the same confusion - e.g. "d", "b", "p", "q", "g", "9" and "6" all being variations of the theme of the vertical line and circle. There are many more confusing spacial relationships -- in fact, it almost seems perversely designed for confusion - e.g. "m", "n", "h", "u", "m", "w", "c", etc. etc.

3. Auditory discrimination and auditory sequencing. The child must associate the sound with the symbol and therefore must be able to perceive small differences in sounds in beginnings and endings and the middle of words. Some children have great difficulty distinguishing the difference - for example, between the vowels in "pin" and "pen" or the last consonant in "spend" and "spent".

4. Visual and auditory memory. The child must store these two-dimensional spacial relationships of written symbols and their sequences in the part of the brain concerned with memory, so that when he is asked to recognize or spell a given word he can recall the shapes of the individual symbols and their sequence.

5. Small motor coordination, gnosis, praxia, left-right discrimination. Through the functioning of the motor and sensory nerves controlling the small motor coordination of his fingers, the child must be able to push a pencil in the many different directions on paper to reproduce these shapes, and in proper sequence.

6. Auditory and visual and tactile kinesthetic tracking. In order to teach pupils to read, write and spell, teachers must explain the task to the pupils via verbal directions, visual examples and tactile kinesthetic demonstrations. Children vary in their ability to follow and remember these sequences. One of the most common problems we have observed is the difficulty of some children to remember a verbal explanation (auditory tracking), especially if it is lengthy and involves remembering several different chores - e.g. "Now children, get out your lined paper and your pencils, print your names in the left-hand corner and the date in the right-hand corner. Now, copy the whole list of words from the board and put a line under only the words that begin with "b". By the time the teacher finishes the explanation, the child has forgotten the beginning part of the instructions and he either completes only part of the task, distorts the task, or sits in utter confusion, and sooner or later disturbs the class (and the teacher).

There is a great variation in children in their readiness for the very complicated task of learning to read, write and spell. Considering that pediatricians find, for example, that the onset of walking may range from 9 to 16 or 18 months, it seems strange that professionals dealing with children's learning have decided that all children at the magical age of 6 years should be ready to cope with this much more complicated human task. Beginning 1st graders show great variation in these abilities; some studies indicate a mental age range from 3½ to 12 years in various of these functions. What a challenge for the 1st grade teacher!

The case of Mark illustrates the problem of the young child with specific weakness or dysfunction in some of the central nervous system functions involved in early school learning. He came to our clinic at the age of 6 years, 8 mo., half-way through 1st grade, at the suggestion of his school nurse, who wondered if he needed glasses since he was unable to learn to read. His teacher commented about his poor coordination in copying figures: "He can't remember numbers and words from one day to the next." This is illustrated by an example of his work his mother brought: Figure 5. His teacher also noted, "He is polite and seemingly cooperative, but sometimes I can't get through to him. He seems immature -- in some of his activity and mannerisms he is more like a 3-year-old. He does try hard."

The fourth of five children, Mark was delivered at our hospital at term after 78 hours of ruptured membranes, and a pregnancy complicated by symptoms of preeclampsia. The nursery nurses noted generalized fine tremor and rigidity of his legs on the third and fourth day post partum. His development was within normal limits -- walking at 15 months (later than his siblings), and using sentences at 18 months. He had moderate trouble with allergies which caused frequent absences from kindergarten. He was babied because of this, especially by a Spanish spinster aunt who lived in the home. Mark spoke both Spanish and English on entering school. His older brother and sister and three maternal cousins have had reading difficulty. His mother and sister have mild speech deficits. His mother reported that Mark was beginning to be upset with his difficulty in reading and writing, cried because some of his classmates teased him about being stupid. Recently, to his mother's consternation, he had asked her what MR meant after his peers had applied this term to him.

His physical examination was within normal limits except for the neurological findings. He had a clumsy, pigeon-toed gait with asymmetrical arm swing, mild athetoid movement of the right upper extremity, striate posture of the left, bilateral finger agnosia, faulty position sense in fingers and toes, poor left-right discrimination. On the Lincoln-Oseretsky Motor Development scale, a standardized research instrument made up of tests of posture, rhythm, and large and small muscle coordination, he scored less than 5 percentile for his age. He was unable to walk a line backward, stand on one foot or heel-to-toe, or to perform fine finger movements.

On the Wide Range Achievement Test he was unable to recognize any words and very few letters. His attempts at spelling are shown in Figure 6. Note his difficulty in spacing his name. He was unable to spell any 1st grade words. The "word" on the right was his attempt to print "cat". On psychological testing using the Wechsler Intelligence Scale for Children, he achieved a Full Scale I.Q. of 92 (within the normal range). If this I.Q. number were all that his teacher heard about him, she might conclude his learning difficulty was "an emotional block". Knowing Mark's I.Q. in no way clarifies his problem; we are interested in his strengths and weaknesses as evaluated by the various subtest scores.

The Wechsler Intelligence Scale for Children (WISC) is divided into two main parts: the Verbal Scale, composed of 6 subtests that require only verbal answers to verbal questions, with no hand manipulation or writing necessary; the Performance Scale, composed of 5 subtests that require a minimum of verbal explanation and verbal response.

When we examine Mark's Verbal and Performance scores, it is apparent that he shows more weakness on the Performance Scale than on the Verbal Scale. WISC scores for Mark, 6 years, 8 months:

Verbal Scale I.Q.	101
Performance Scale I.Q.	83
Full Scale I.Q.	92

<u>Verbal Tests</u>	<u>Scaled Scores</u>
Information	11
Comprehension	11
Arithmetic	10
Similarities	14
Vocabulary	9
Digit Span	6
<u>Performance Tests</u>	<u>Scaled Scores</u>
Picture Completion	10
Picture Arrangement	7
Block Design	9
Object Assembly	8
Coding	4

The individual subtest scores suggest strengths and weaknesses of the various abilities being tested. A scaled score of 10 is average, so if Mark had earned a scaled score of 10 on all subtests he would have achieved an I.Q. of 100. A very rough comparison can be made between this average I.Q. of 100 and the average scaled score. For example, in the first verbal subtest, Information, consisting of such questions as, "From what animal do we get milk? How many pennies in a nickel? Who discovered America?" etc., Mark achieved a scaled score of 11. If we were to assess his intelligence only by how much information he has accumulated in comparison to a cross-section of children his age in this culture, he would earn an I.Q. of roughly 110. Looking at the other subtests, we can see that Mark is also within the average range in Comprehension (a series of questions assessing social judgment), Oral Arithmetic, and Vocabulary (defining the meaning of words). He is superior in Similarities (his ability to categorize or abstract - e.g. "How are a piano and a violin alike?"). On the subtest Digit Span (his ability to repeat a series of numbers both forward and backward), he demonstrates a severe weakness with a scaled score of 6. This subtest suggests a weakness in auditory attention or immediate auditory recall. Some weakness in visual memory may also be indicated, since visual memory assists in recalling a series of digits backwards. When we review Mark's subtest scores of the Verbal Scale, he shows great variation in intellectual function -- comparable to a variation in I.Q. from about 140 to about 60.

He also shows varying strengths and weaknesses on the Performance Scale, from 10 to 4, with his greatest weakness in Coding, a test of eye-hand coordination involving visual perception, visual memory and small motor coordination. Thus from Mark's scores on the WISC subtests, certain weaknesses appear that deserve further study. The low score on Digit Span raises the possibility of difficulty

in auditory attention and auditory and visual memory for sequences. The low score on Picture Arrangement also suggests some difficulty with visual sequencing. The very low score on Coding suggests difficulty in visual perception, visual memory, or small motor coordination.

The Bender Visual-Motor Gestalt (Figure 7) further tests visual perception and motor coordination. The two-dimensional figures are presented separately on cards and the child is asked to copy them just as he sees them -- no speed or memory is required. Mark's difficulty in perceiving and reproducing two-dimensional spatial relationships is evident from his reproductions (Figure 8), which are at about the 5½-year-old level. Further study of his difficulty in visual motor function is illustrated by some examples of his performance on the Frostig Developmental Test of Visual Perception. Mark shows his poor small motor coordination in his attempts to guide his pencil without going outside the boundary lines: Figure 9. In Figure 10, "Finding one just like the one in the box", his confusion with two-dimensional space is shown by his choice of mirror images for the flower and the block. Even with a series of dots to help him, Mark had difficulty reproducing two-dimensional figures: Figure 11. We now begin to understand his difficulty in coping with the complicated two-dimensional spatial relationships of letters and words. On further testing, Mark showed severe weakness in visual memory and auditory tracking, but good ability in auditory discrimination. Thus Mark, despite his over-all normal intelligence had severe weaknesses in visual perception, visual memory, motor coordination, and auditory tracking.

Mark was enrolled in one of our classes at the beginning of the summer session after completing 1st grade. Figure 12 is an example of his struggle with a series of "ap" words. Six weeks later he appears much more sure in his use of the pencil in printing: Figure 13. Mark is now in the 3rd grade and is reading at grade level at high 2nd grade speed. His spelling, as is so often true with these children, on the WRAT lags behind at 2.3 level. Figure 14 is an example of Mark's beginning mastery of cursive writing. At the age of 9-3/4 years his Bender reproductions show improvement over his previous testing: Figure 15, but score two years below his chronological age. Mark will continue to need understanding and help as he faces more demands for expressing himself with the written word, as he proceeds through the upper grades. He is still a cooperative, hard-working boy with an air of self-confidence. The observations of his teacher and school nurse of his early learning difficulty enabled Mark to be evaluated and understood before too much harm was done.

Physician's Index of Suspicion for Learning Disorders

The weaknesses in the various central nervous system functions involved in learning language skills may be on the basis of developmental deviations in the central nervous system from genetic origin, from insults received during the prenatal or perinatal periods, or during infancy and early childhood. In the medical history, particular attention should be given to the possible clues to central nervous system dysfunction. The physician should develop an INDEX OF SUSPICION. The following clues, each alone, may not lead to specific learning disorder. It is the total profile that is important.

- a. The first is sex. Males are more vulnerable. Obviously, this alone won't lead to learning disability.
- b. A family history of reading, spelling or speech disorders.

- c. Illness or difficulty during pregnancy, including first trimester bleeding or toxemia.
- d. Birth history, including prematurity, any prolonged or precipitous labor or delivery, unusual delivery, perinatal anoxia.
- e. Neonatal course, including sucking ability and general activity in comparison to that of siblings. (A history of poor sucking, excessive sleeping, apathy or increasing irritability may indicate deviation in central nervous system function.)
- f. Developmental milestones in comparison to siblings, especially speech development and large and small motor coordination. We have found a significant number of children with a history of delayed speech development to have difficulty in academic language skills. Many children with learning difficulties have associated difficulties in large muscle coordination, a history of awkwardness and clumsiness as preschoolers, and at school age poor ability in sports which require skilled coordination, e.g. baseball. Even greater delays are usually apparent in small muscle coordination, when the parents note the child's awkwardness and/or disinterest in coloring, cutting, tying shoes, and using eating utensils.
- g. History of illness that could cause central nervous system insult (central nervous system infections, severe dehydration in infancy), or accidents causing central nervous system injury.
- h. Associated with learning problems and central nervous system dysfunction may be a group of symptoms which make up the hyperkinetic syndrome. Children with this syndrome are usually brought to the physician as behavior problems. Their symptoms of hyperactivity, distractibility, short attention span, emotional lability, cyclic behavior, low frustration tolerance, poor impulse control, over-reactivity to excitement, temper outbursts, and clumsiness are difficult to live with or even to tolerate in the doctor's office. Relatives and neighbors often make the parents feel as though they are to blame for the child's behavior. Their child's behavior makes them appear as failures as parents, and it is easy for them to become quite resentful of the child and results in poor parent-child relationship. When this type of child enters school, he can completely disrupt the classroom, and the parents' resentment and anxiety mounts.

The following factors are not necessarily specific to learning disabilities, but may severely increase the problems for the child with a learning disorder:

- i. Chronic illness and physical handicaps may cause the child to miss much school and get behind in his learning and school work. He may begin to dread school and make destructive use of his illness in a vicious cycle of increasing symptoms and increasing school absence.
- j. Unrecognized seizures, especially petit mal and psychomotor seizures, may masquerade as inattention, day dreaming, temper outbursts and bizarre behavior.
- k. Cultural factors, including different native tongue or dialect, different behavior standards, poor nutrition, insufficient rest, frequent changes of school can present severe handicaps.

In the physical examination, special attention should be given to the child's speech, vision, hearing, and motor coordination. The child with a high frequency hearing loss is unable to hear many speech consonants and may be commonly misdiagnosed since he can hear most environmental noise and the vowels of our speech. These children are frequently accused of not paying attention. Visual difficulties, in the opinion of most ophthalmologists, seldom cause difficulty in learning to read; poor visual acuity, strabismus and astigmatism may contribute to slow rate or fatigue in reading. Observation of the child while buttoning clothes, tying shoes, or his ability to use pencil and paper can be most informative. A preliminary assessment of his visual motor coordination can be made by asking him to:

Draw the best man he can;
Copy a circle already drawn (at age 3 years);
Copy a + in imitation (at age 4 years);
Copy a square (at age 5 years);
Copy a triangle (at age 6 years);
Copy a diamond (at age 7 years).

Early Prediction

Katrina de Hirsch, with whose work many of you are familiar from the New Yorker article, with her associates has just finished a superb predictive study of 106 kindergarten children, which should be of great interest to school personnel and physicians interested in children's emotional and mental growth and development.* Briefly, she studied 53 premies and 53 term infants (from the Foetal Life Study at Babies Hospital) at Columbia Presbyterian Medical Center during their kindergarten year. They were matched as to age, sex, social and economic backgrounds, and those included in the study had English as the predominant language. Their I.Q.s on the Stanford Binet Form L were within one standard deviation from 100, ranging from 84 to 116. They showed no sensory deficits, no psychopathology as judged clinically. 23 of the 53 premies failed the reading and spelling tests given at age 8 at the end of the 2nd grade. In the full-term group, 8 of 53 scored 0 on the Gray Oral Reading Test at the end of the 1st grade. 5 of 53 scored 0 at the end of the 2nd grade and 3 were 9 months or more below the norm in reading.

Description of these 8 full-term infants at kindergarten age who showed later learning problems:

1. I.Q. range 94 - 116.
2. 3 Negro, 5 Caucasian.
3. 6 male, 2 female.
4. 4 unusually small physically.
5. 5 were hyperactive and impulsive, 3 hypoactive, hypotonic -- could hardly hold the pencil.
6. They were described clinically as "infantile", with poor manual control.

* "Predicting Reading Failure", Katrina de Hirsch, Jeanette Jansky, William Langford. Harper and Row, 1966.
(Summarized in the 1966 issue of Bulletin of the Orton Society)

7. It is interesting that in terms of poorly established dominance, they were not different from those who did well in 1st and 2nd grades.
8. Poor in figure drawing.
9. Poor in auditory discrimination.
- 10.. Poor Bender reproductions.
11. Poor figure-ground discrimination.
12. Subtle gaps in language comprehension, e.g. couldn't grasp essential parts of story. Had trouble finding words, e.g. shown picture of stove, after long hesitation would say "kitchen".
13. Poor on reading readiness tests, in letter copying where they showed reversals and had trouble matching letters and words.

8 of 53 full-term subjects were "slow starters" with scores of 0 on Reading Achievement at the end of 1st grade, but with normal scores at the end of 2nd grade. All were poor in spelling at the end of 2nd grade. There were 4 females and 4 males in this group. They had been better organized as kindergartners but had done poorly on more complex tasks, e.g. Bender figure reproductions.

Of 53 full-term subjects, the 15% who tested highest in reading ability at the end of 1st and 2nd grade, 2 were male and 6 were female. They were older at entrance to 1st grade, all being 6 years, 5 months and above. As kindergartners they were more mature physically, were well developed and showed advanced linguistic ability. They scored high in readiness tests.

Medical Management

Some children with the hyperkinetic syndrome show dramatic improvement on special medication -- particularly medication that appears to enable them to cut out multiple stimuli and attend to one stimulus. (In our experience, the drugs of choice are first the amphetamines, then Ritalin, tailored to the requirements of the individual child).

One of the most important aspects of medical management for all children with specific learning disorders concerns helping the maligned parents and teachers who have the daily task of working with these children. Almost all the parents of the children in our Pediatric Learning and Language Development Clinic have been made to feel at fault for their children's learning difficulties, especially if accompanied by hyperactive behavior. It is easy for parents to become defensive, to place all the blame on the teacher and work against, rather than with, the school system in their utter frustration and bewilderment. They need much help in understanding and managing their child's specific problems. Frequently the child may be seen by the pediatrician, the neurologist, the psychologist, the hearing and speech consultant, or the psychiatrist, and the parents are left with a hodge-podge of confusing conflicting information that leaves them utterly bewildered. It is essential that someone ties this information together and presents it in a meaningful way to the parents. Likewise, someone should do this for the classroom teacher. We have many cases where reports of our evaluations have ended up in the files of the school psychologist or school guidance personnel, and the teacher is left completely oblivious -- not even aware the child has been studied.

Who should help parents understand the child's problem? Whoever can do it best. It might be the school psychologist, the principal, the teacher, the physician. It would be wonderful if they all could. We are trying to train tomorrow's physicians to be able to do this. The Department of Pediatrics offers the following program as part of the training of senior medical students and pediatric interns and residents:

Following an orientation regarding the importance of learning problems, the factors related to learning problems and methods helpful in their evaluation, a child with this complaint is seen by the physician for medical history and physical examination. On the basis of information received from the referring physician and school, appropriate consultations are arranged over a 4-day period. The physician accompanies the child through these consultations in order to learn the usefulness of these other disciplines in such an evaluation. These consultations usually include: psychological testing, a parent interview with one of the consultants of the Child Study Unit, a neurological evaluation, a speech and hearing evaluation, and an educational evaluation. The findings from these consultations are presented by the trainee to a conference attended by the consultants, who attempt to reach a consensus re the child's problems and suggest plans for his future management. Following this conference, the trainee and his consultant from the Child Study Unit meet with the parents and child to help them gain an understanding of the child's problems and formulate plans for management. The trainee then communicates these findings and suggestions to the referring physician and school.

As special programs for these children are developed in the school system, it is essential that parents understand the program and cooperate with the school. Without parent cooperation and support, any special program is doomed to failure. We have found regular parent meetings to be of great value in our Clinic for Children with Specific Learning Disorders. Hopefully the time will soon come when children with potential learning disabilities will be detected and evaluated before they begin kindergarten, so that their special defects and management problems can be understood and special help given before they experience even half a year of failure.

If our aim is rearing our children to become productive adults with a feeling of being worthwhile human beings who have some value to their society, from our experience seeing children with school problems, it appears that we (and I mean our society) have devised an educational system that defeats this purpose for a large number of our children, and creates much frustration and anxiety in dedicated teachers and parents. We talk of the importance of respect for the individual, and yet our democratic educational system is not today able to practice this. Democratic education does not mean equal and the same teaching for all. Considering what a complex organ the brain is, the almost infinite interconnections required for integration of its functions, it would not appear reasonable to look for a single lesion as cause for learning disorders or a single teaching method as a cure. In recent years we have heard heated declarations from proponents supporting their own particular, universal panacea for these educational problems. Individual strengths and weaknesses in learning must be understood and methods developed to meet them; and we are lagging badly. Since Sputnik, there has been increased emphasis on achievement and excellence, which is fine for the excellent. The all-too-frequent ruthless competition for grades results in little or no reward for less than excellent students. We see parents -- especially from suburbia -- who are in a panic if their child doesn't get top grades.

The pressures put on some children today are horrendous. In our experience with children with learning problems on the basis of real weaknesses in central nervous system functions involved in learning to read, write and spell, they are constantly told by teachers, parents and sometimes physicians -- "You could do better if you tried". This slogan follows them wherever they go. These children say they do try but don't do better. In their discouragement with failure they develop defenses so familiar to us all they clown, they misbehave, they become belligerent or they become apathetic with an "I don't care" outward appearance. Their teachers and parents suffer, too. Maybe we need to re-evaluate our long-range aims and educate ourselves and parents in understanding human differences, individual strengths and weaknesses, instead of, as now, trying to force many children into a system where they have little chance of success.

Some children could learn to read and write at maybe age 3--others need much more readiness training, and may need much special assistance in the early years of school. Yet today, parents (and the child) often are made to feel great failure if the child is not in step with the "norm" in all abilities. We are all trying to march to a system that needs changing. Our efforts should go toward changing the system, so that the varying developmental rates and intellectual strengths and weaknesses can be evaluated and individually met in educating our children.

The future of any nation is directly related to the optimal development and education of its children. It is tragic that our affluent society is still unable to meet the needs of so many of our future citizens, and that so many of our children continue to be subjected to the occupational hazard of failure in their job of going to school.

March 20, 1963
San Francisco
San Francisco
California

The lazy drowm fox ran
faster than the mouse

Conard is the secent largest
cantry the North American catenet

FIG 1

A small boy saw a borne fox

^{Henady}
Pondit was borne in hand in
the cubin crte.

FIG 2

Frank

I went to my uncle's and he has
a swimming pool. We first unpacked.
Then we went swimming and watched
colored T. V.

My uncle got thrown in the water
and then my father. We played
dominoes. My uncle won one
game and my father won one game.

FIG 3

Qb ab \aaP i

\aa /ba aa_

\aa /ba _d_

\aa /ba> aa_

FIG. 4

What Comes Between?

11	12	13
15	16	17
13	14	15
18	19	20
17	18	19

FIG. 5

Reading, Spelling, Arithmetic from Kindergarten to College

By Joseph Jastak and Sidney Bijou

1946 Edition

MAR Ky	MARKS
MAR	KXS6 ASA
123 L	L DM
TOM BETTY	SYS
	FIG 6

1-0 1	12-1.7	23-2.8	34-4.0	45-5.6	56-6.7	67-7.9	78- 9.6	89-11.3	100-14.0
2-0 3	13-1.8	24-2.9	35-4.2	46-5.7	57-6.8	68-8.1	79- 9.8	90-11.5	101-14.3
3-0 5	14-1.9	25-3.0	36-4.4	47-5.8	58-6.9	69-8.2	80- 9.9	91-11.7	102-14.7
4-0 7	15-2.0	26-3.1	37-4.6	48-5.9	59-7.0	70-8.4	81-10.0	92-11.9	103-15.0
5-0 8	16-2.1	27-3.2	38-4.8	49-6.0	60-7.1	71-8.5	82-10.1	93-12.0	104-15.5
6-0 9	17-2.2	28-3.3	39-5.0	50-6.1	61-7.2	72-8.7	83-10.3	94-12.3	105-16.0
7-1 0*	18-2.3	29-3.4	40-5.1	51-6.2	62-7.3	73-8.8	84-10.4	95-12.6	106-17.0
8-1 2	19-2.4	30-3.5	41-5.2	52-6.3	63-7.4	74-9.0	85-10.6	96-12.9	107-18.0
9-1 3	20-2.5	31-3.6	42-5.3	53-6.4	64-7.5	75-9.1	86-10.7	97-13.0	
10-1 5	21-2.6	32-3.7	43-5.4	54-6.5	65-7.6	76-9.3	87-10.9	98-13.4	
11-1 6	22-2.7	33-3.8	44-5.5	55-6.6	66-7.7	77-9.5	88-11.1	99-13.8	

*Correct first name is no longer credited. Count the number of letters (up to 7) correctly produced in S's name or otherwise.

	1. Counts 1-2	9. Counts 1-15	Grade 1-2	Grade 3-4	Grade 5-6	Grade 7-8	Grade 9-10	Grade 11-12
3	2. Reads 3	10. Reads 6	1-0-1	9-1-1				
5	3. Three fingers	11. 41 or 28?	2-0-2	10-1-2				
6	4. Counts 1-6	12. Eight fingers	3-0-3	11-1-4				
71	5. Counts 1-10	13. Reads 71	4-0-4	12-1-5				
	6. Reads 5	14. 4 plus 3	5-0-6	13-1-6				
	7. 9 or 6?	15. 9 minus 3	6-0-7	14-1-8				
	8. 3 minus 1		7-0-9	15-2-0				
			8-1-0					

If both the oral and written arithmetic tests are given at the transitional level, the two grade scores may be averaged.



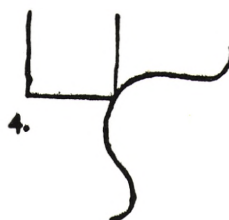
A.



2.



3.



4.



5.



6.



7.



8.

PLATE I. Test figures adapted from Wertheimer.

FIG. 7

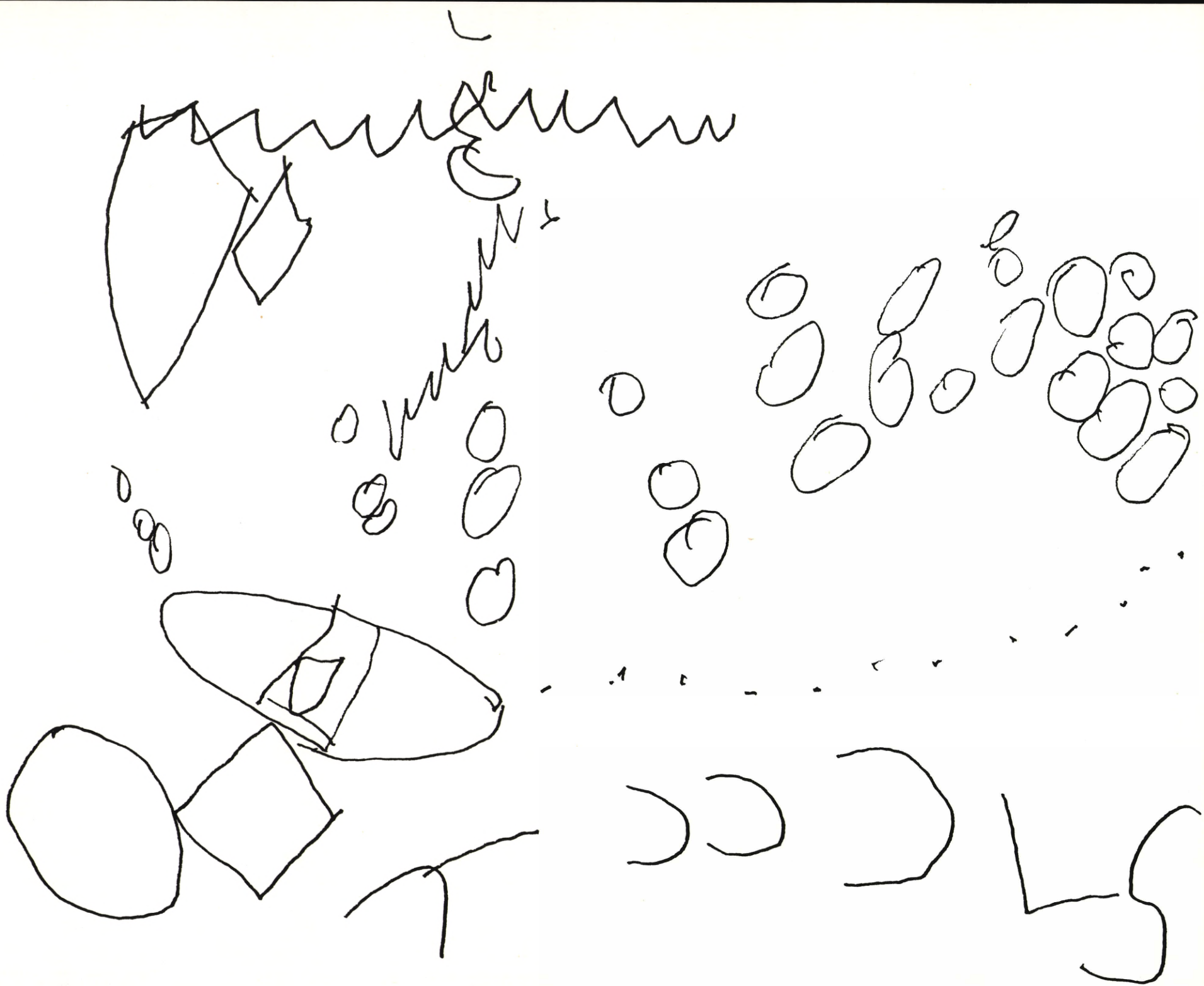


FIG. 8

Ib

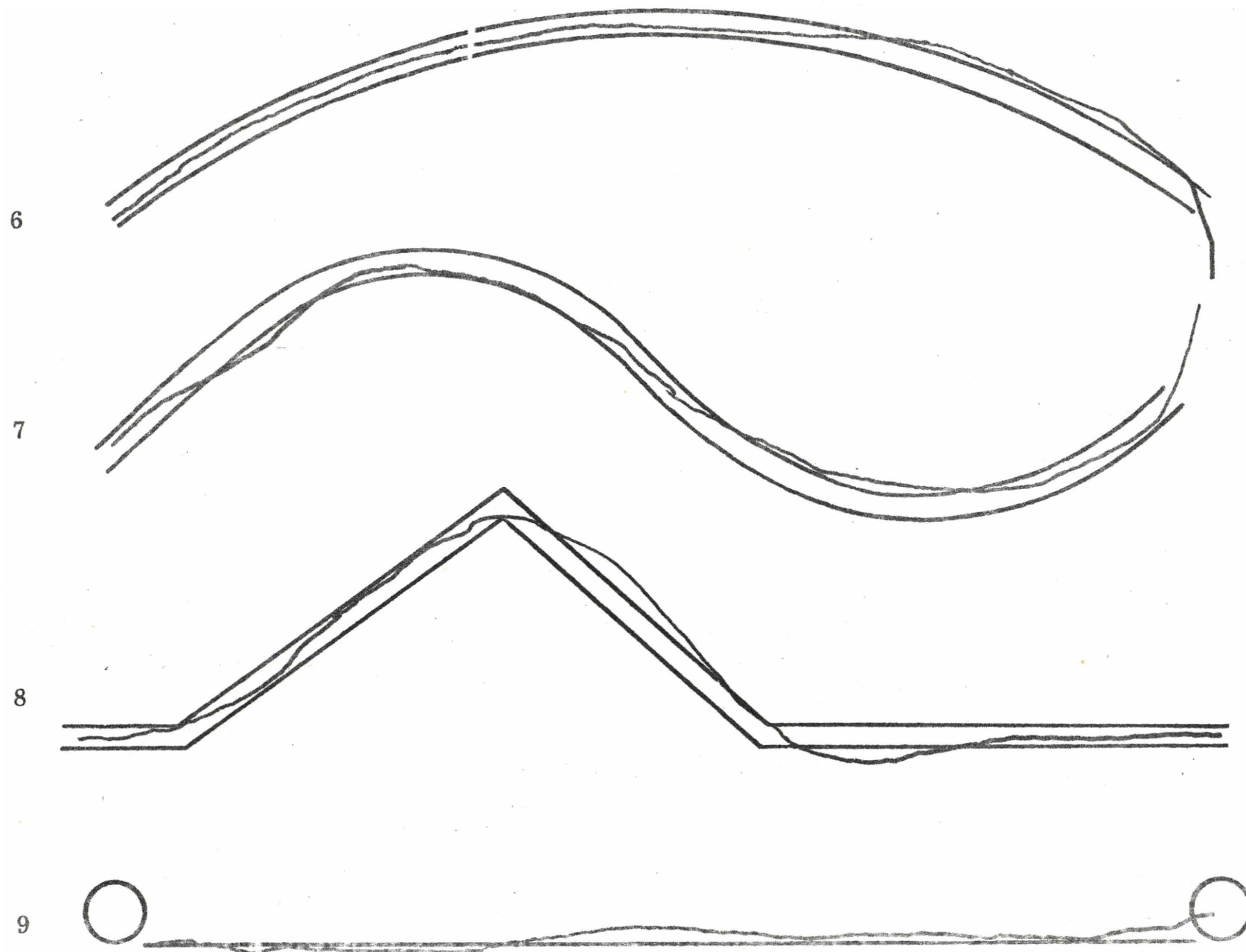
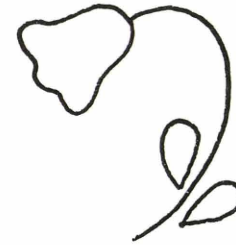
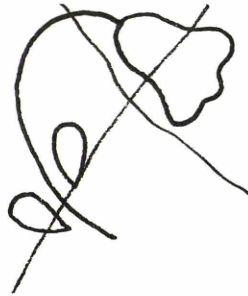


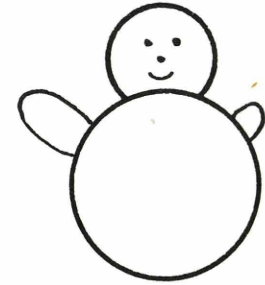
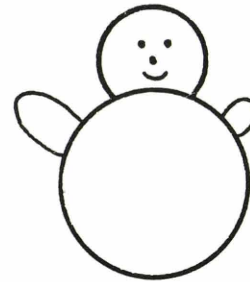
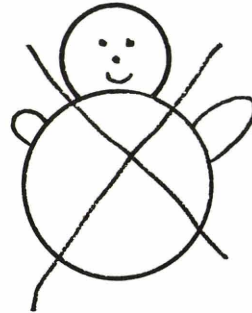
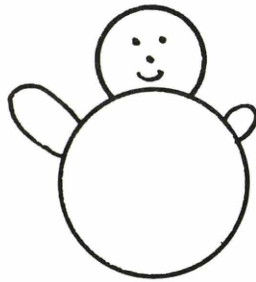
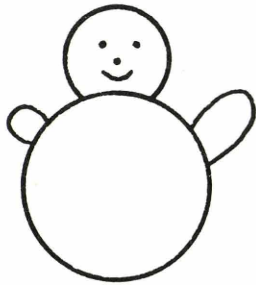
FIG 9

IVb

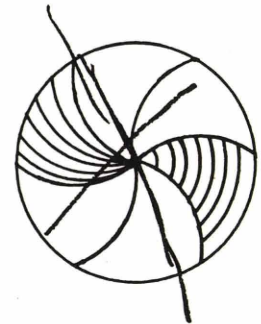
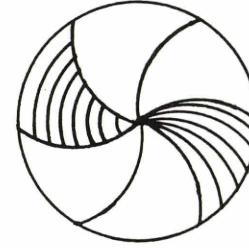
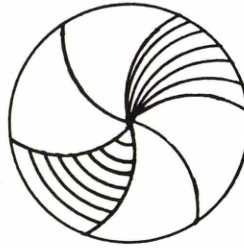
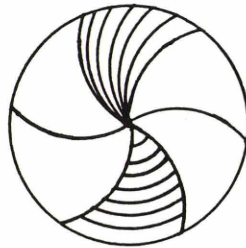
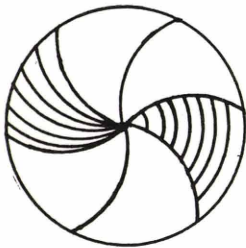
5



6



7



8

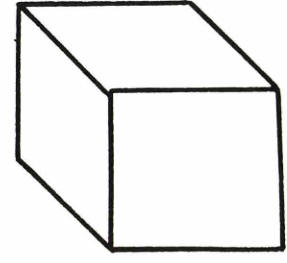
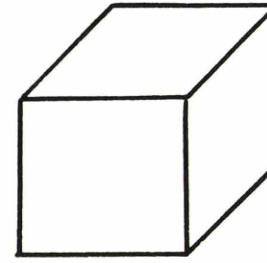
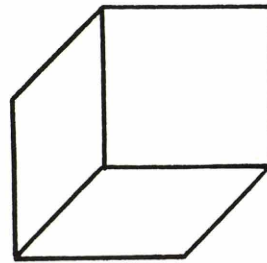
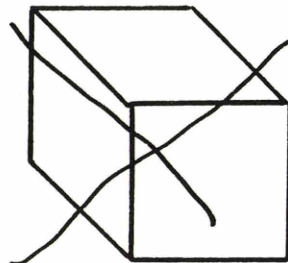
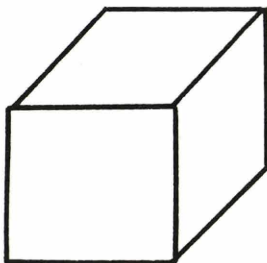
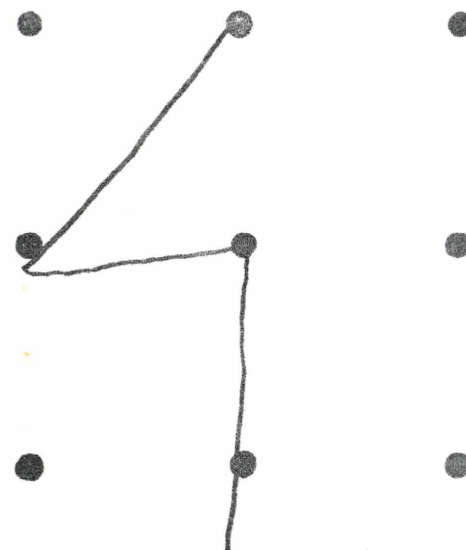
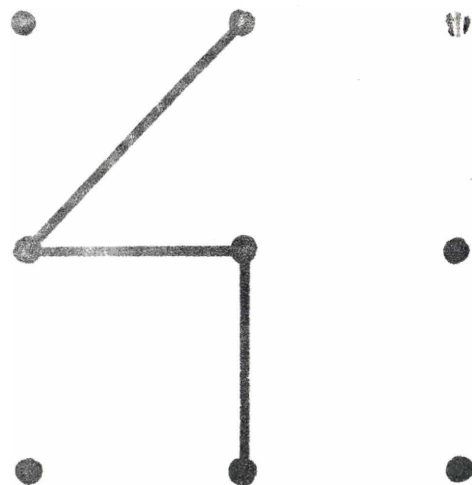


FIG. 10

Vc

5



6

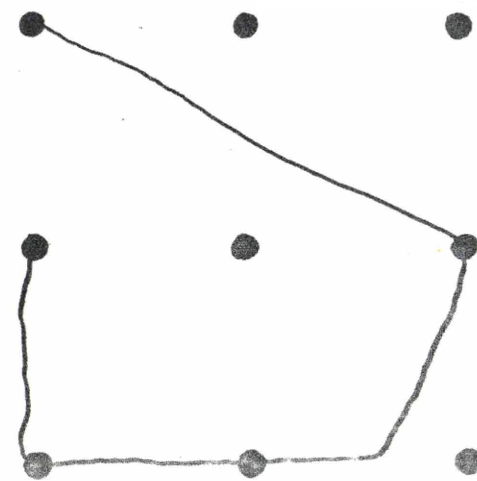
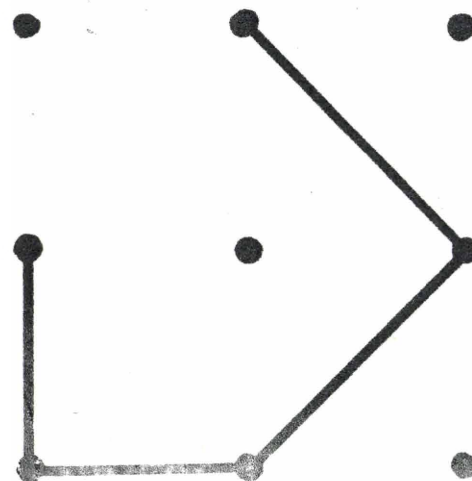


FIG 11

MARK
1ST DAY
JUNE 64

c a p
g q p
l a p
m q p
n a p
s q q
t q q
p q q

FIG 12

bed
red
Ted
fed
tied
zed
wed

FIG 13

I go to school every
day.

Mark

1-16-67

FIG. 14



FIG. 15

MARK

THE ROLE OF THE PSYCHIATRIST IN THE CARE OF THE CHILD WITH
WITH LEARNING DISABILITIES

by

Dorothy Colodny, M.D., Private Practice of Child Psychiatry,
3695 Third Avenue, San Diego, California 92103

THE PSYCHIATRIST AND THE CHILD WITH CEREBRAL DYSFUNCTION

Dorothy Colodny, M.D.

Recently a parent said to me, "You're a psychiatrist. My child has a learning disability. I am told he is neurologically handicapped. Why am I here?"

I thought instead, "Why am I here?"

These days, psychiatrists treat children with neurological handicap (now officially designated as cerebral dysfunction) because they are sent to us, usually with the tag, "emotional problem." Because it is hard to get all they need elsewhere, we do examine them. We do a thorough psychiatric exam, a partial neurological exam, and a minimal psychological exam. We can administer a Bender or Draw-a-Person or estimate an I.Q. We sample reading. We may send the patient out for specialized physical or psychological examinations, lab work, special services, physiotherapy, remedial reading, et cetera. Then we counsel parents, treat the children by psychotherapy or play therapy, medicate them. But this is not to say that all this is our real role or even the best use of our skills.

The psychiatrist and anxiety

The subject matter of psychiatry is anxiety, its causes and the many fascinating ways in which human conduct, thought and feeling are modified by it. When people are anxious, by definition, they never know precisely what irrational fear causes their distress--a real incapacity, an unacceptable emotion, a problem denied. A psychiatric symptom is the expression of such a problem. And so long as it can be seen as a problem, it may have a solution. But a symptom cannot be solved; it can only be treated. And the treatment for a symptom is to translate it back into its underlying problem so the patient can set about solving it, with or without our help.

At present, there is a great deal of anxiety and some symptom formation around the problem of cerebral dysfunction. The psychiatrist's task is to deal with this anxiety in everyone concerned so that we can get on with the problem of applying all the different remedies our children need. If we can do this, a useful diagnosis can be made--one that is clear, not only to the professionals but to the patient and his parents. Hopefully, then, the patient and his family can accept to the fullest the many services he requires. As the confusion and controversy about this disorder lessen, the role of the psychiatrist may diminish, but at present, there is a great deal for us to do.

The anxiety of professionals

We had better begin with our own anxiety, that of professional people, physicians, educators, other specialists in aiding children. This anxiety, as we probably realize, compounds honest differences of opinion and makes it hard for patients to get from us what they need.

For many years, we have cherished a tradition that children are basically alike and their trouble with feelings, behavior, sometimes learning, is due to unfortunate early interpersonal experience, internalized as intrapsychic disorder. Theories about this still exist in the literature, are taught in schools of medicine and social work, have influenced many psychologists and jurists, and seeped into the arts, the humanities, and the ladies' magazines.

It certainly makes many of us anxious to give up this hard-won ground. As we incorporate our knowledge of cerebral dysfunction, we must alter our assumption about the nature of psychiatric symptoms, expand our list of the causes and kinds of anxiety and our ideas about what symptoms mean and behavior expresses.

In a psychiatric tradition which has substituted understanding and insight for blind sedation and restraint, it is hard to reconsider medication, even though it is not meant at all as a substitute for insight. It is really painful to find that even the most sensitive psychoanalytically oriented psychotherapy may not by itself cure our patients. Our watchwords, "permissiveness," "acceptance," "gentleness," often turn out to be wrong for certain children. Our loyalty to our teachers and colleagues in these matters sometimes conflicts with that to our patients. This is new work; we do not always know precisely what will succeed. We treat and teach and train just the kind of child who evokes our uncertainty, our resentment and often very particularly our dislike. These are uncomfortable emotions, hard to acknowledge.

We are blamed a lot and get defensive. It is particularly touching when an obstetrician responds to a request for history as though he were being told, "You've hurt this child's brain." One can really believe and say, but is rarely heard through the fog of anxiety, that it was good obstetrics which saved the life of the handicapped child.

Damage itself is a concept that troubles us. Even now, young psychiatrists often admit that they feel they have in some way abandoned their patients if they consider an "organic" diagnosis. This is sentimental, an unrealistic fear. We really are obliged to consider the possibility of cerebral dysfunction in every child who appears in our office. Unwillingness to do so, I am sure, causes more failures of detection than the crudity of our diagnostic tools. I, for one, sometimes wonder if any child without some neurological vulnerability ever requires my care.

The anxiety of parents

The parents of the child with cerebral dysfunction have a much worse time. They have been the rounds; the professionals have differed about their child; they have been blamed a lot. When they come to a psychiatrist, they are often unwilling, sometimes very angry, convinced that they will be accused. At present, they rarely come without a long history of successive failures in obtaining a hearing for their complaint.

It is almost impossible to take a developmental history without first

coming to grips with the parents' feelings about responsibility. Mothers cannot remember milestones when they are waiting for the blow to fall. Yet these parents are unlike those of neurotic or delinquent children, (such as Adelaide Johnson and David Levy describe), those whose sick needs are met by the child's disorder, whose needs have produced the disorder and who must be shown their complicity.

Anyone can have a child with cerebral dysfunction. These parents' characters have little in common. The only likelihood is that perhaps they may share some genetic element of disability with the child. If a parent notices this resemblance to his child and misinterprets it, he may minimize the trouble, "I outgrew it, he will." Or he may feel a desperate guilty need to make restitution.

We have been interested in this and other anxious demonstrations of guilt for a long time, since they can obscure all the other issues and keep parents from acting in their child's best interest.

Many workers in the field are easily put off by exclamations of self-blame. Timid parents, fearing to explore a child's failure, afraid of what they will hear, may effectively divert the examiner. This we have called "obstructive" guilt, an unconscious mechanism to be identified and actively discouraged. The real issue of responsibility is a sensitive one which parents raise sincerely and which warrants respectful consideration. I cannot hold with the description of the psychiatrist's role, "to relieve guilt." That is a divine power. But we have some experience in defining responsibility if the lack of definition is producing anxious confusion. It is now possible, in view of the work of Fish and Chess and Thomas, to show parents that temperament, activity levels, reaching out or withdrawing are more often inborn than the result of management. We know that overprotection does not necessarily produce irritability or dependence and parents can learn from Erikson that in a given child, it may have saved him from the worse handicap of chronic distrust.

We try to define the style of interaction between parents and child and not deny real pathology or avoid discussing "constructive" guilt. If a parent is genuinely aware of his shortcomings, it is no reassurance to ignore it. It is far better to help sort out the real from the assumed mistakes. Parents may feel guilty because they have restricted a child too much. Their own disappointment and anger may be mixed with guilt or perhaps be felt by them as guilt. Yet their method of discipline may have little to do with their child's failure to grasp social concepts. This is quite different from parents whose own immaturity in the face of the same frustration has driven them to undermine or even physically abuse a child. We must then clarify what the psychoanalysts have called "Oedipal" guilt. Very usefully translated, this means the inability to distinguish between the rights and the roles of parent and child. Our task really is to show a parent that he did not cause the handicap but may, unwittingly, worsen or perpetuate it. Though he is not responsible for what did happen to his child, he may still be responsible for what will happen to him next.

The new genetics raises this issue in another form. Are we responsible

for our imperfect chromosomes? Or if we proceed to the notion of prenatal or paranatal disability, must we start blaming all over again?

Until this central issue is dealt with, many parents will handle it indirectly, not only by seeking blame but by blaming each other and many outsiders, doctors, schools, neighbors--the child himself. This is very time consuming and nonproductive.

Our business, too, is with parents' feelings about a child, if these feelings are unclear, unacceptable, obstructive. With luck, once a mother or father realizes that neither he nor the child is in the dock, it becomes easier to endure or unburden feelings of resentment, impatience and fatigue. At the same time, we try to show parents what the child's behavior is about. This is where our psychological folklore has taken its toll in iatrogenic anxiety. There really is insufficient evidence that the tantrums of the child with cerebral dysfunction always mean hostility, that his destructiveness means malice, that his inattention means negativism or a fear of what he will see, that his tics are invitations to perversions, et cetera. There is a little more evidence that emotional explosions are related to immaturity of the central nervous system, that destructiveness is often random disinhibition, that inattention relates to perceptual patterning, that tics represent sheer motor overflow. We are free to speculate about the secondary meaning of these things, but we are not obliged to do it and should ask if we have a right to force our fantasies on parents and children. Without them, they are better able to consider both the primary and secondary sources of trouble--primary neurological dysfunction and the secondary psychiatric complications related to the child's picture of himself and the parents' interpretation of his behavior.

Consider John, a high strung, jumpy, nonreader. He took his father's new transistor radio to school and told the children it was his Christmas gift. Father initially called this "stealing" and feared his boy would end up in prison. The truth was that John, unhappy with himself, pretended wistfully he was the kind of boy to whom father would want to give such a gift. When father realized this, he took his mind off delinquency and was able to think about remedial reading.

Or Mary--this 3½ year old was left after measles encephalitis with regressed speech and a lopsided walk. Mother, somewhat immature, but not a harsh woman, said, "She won't talk." It is true Mother felt less anxiously helpless thinking Mary could if she would, but when she acknowledged that Mary was aphasic, she was better able to obtain speech training for her.

Not that it is always a relief to parents to learn that a child has cerebral dysfunction, rather than neurosis or psychosis. At first we were amazed when certain parents clung with passion to the diagnosis of schizophrenia. It dawned slowly that they were choosing what to them was their lesser fear. To some parents, as to some doctors (quite incorrectly at that), a diagnosis of anything organic seems more final, more irreversible than something merely mental. They felt that a psychological illness would yield to a psychological cure, or that having caused the illness, they could un-cause it, or at any rate, that a child's "refusal to relate" had only a child's strength behind it.

Equally, when it comes to the choice of diagnosis, not a careful scientific one but an irrational, impulsive preference slanted to make us feel better, both professionals and parents must be alert to the risks of diagnosing cerebral dysfunction with ulterior motives. We are not all as transparent as the lady who asked me in public, "Can tics be brain damage?" When I asked her, "Why do you want to know?" she said, "Then I won't have to feel responsible." Others have made just as clear, "Then I won't have to submit to psychotherapy" or "pay for training," et cetera. Both diagnostician and parent must ask ourselves if for any reason we are afraid to consider the alternative diagnosis of mental retardation or mental illness. We must recognize that these disabilities are not entirely separate ones, except for purposes of classification and convenience. Mental retardation is a pervasive form of learning disability. Mental illness in children may be the result of failure to learn in school and the disappointment this brings or else the lack or loss of learned techniques to deal with one's feelings or with other people. When the anxiety of parents to limit their troubles causes them to acknowledge only one of these three aspects, their children often do not receive all the help they need. And the alienation, one from another, of the organized parents' groups for the Retarded, the Mentally Ill, or those with Cerebral Dysfunction can produce expensive and impractical duplication of efforts and of services. For the same reasons, we can oversimplify both prognosis and cure. Anxious parents accept easy solutions, unitary methods, offered by sincere enthusiasts and by quacks.

The simplest kind of wishful thinking can produce eagerness to dwell on one aspect of this complex syndrome, one symptom instead of the whole cause; the dream that we can turn back the clock and simply install now what should have developed earlier; one single course of treatment rather than a responsible plan for a long, multiple, tiring coordinated effort.

The whole question of treatment is fraught with misconceptions. Parents with any sophistication at all ask at once, "Must I be treated, too?" And some psychiatrists would, if given a choice of one, treat the parent rather than the child. While parents of the child with cerebral dysfunction in treatment must work for a time with the doctor, I do believe that the terms should be stated clearly. Unless the parent is sick in his own right, one does not assume that his character needs changing, or that he needs "treatment." It is preferable to interpret the child's disorder to the parent so that he can help his own child as much as possible. This is quicker, cheaper, in many ways better. It respects the parent's dignity, his responsibility for his own child; it sets up no real or fancied competition between psychotherapists and parent, or mediator between parent and child. Fundamentally, it repeats our conviction that a parent need not be noxious to his offspring.

Suspicion about medication is of two kinds: A rational concern about new drugs and their side effects and an irrational, anxious reluctance to put potions into little bodies. "Will it poison him?" I am often asked right out. Sometimes I answer, "Do you really think I would poison your child?" or "Have you ever read the Hippocratic Oath?" "Will it be a crutch?" "Will it suppress the real symptoms?" "Hide the real problems?" These are issues among psychiatrists, too, and I can state only my own belief that if a drug can help a child feel better and act better, both he and

his parents will like him better. If it can relieve his symptoms, he will have more energy left to solve his problems.

Other kinds of treatment may arouse irrational fears, too: Psychotherapy, because it is hard to put into words even by those who practice or experience it; physiotherapy, training of speech or eyes, or remedial reading because the child may protest, the neighbors may notice. So often these are testing operations expressing the fears of the parent, projected onto the absent child. "Will he think he's crazy if we bring him to a psychiatrist?" Will he think something wrong with his brain if he has an EEG?"

The anxiety of the child with cerebral dysfunction

The child, it is true, has his own anxieties, not always those attributed to him by the family. Of course, a child who is handicapped realizes that something is wrong. He may openly acknowledge it or become boastful in self defense or alter his character in other ways. He may fabricate elaborate neurotic defenses against the sense that he is in some way ill equipped for life. These defenses may be identical in form to the classic Freudian syndromes--obsessive-compulsive disorders, phobias, et cetera. It is our responsibility to note and treat the pseudoneurosis while we identify and treat the underlying disability also. It is the impression in our office that treating the neurotic symptom by traditional means does not help and may make it worse. Instead, a different psychotherapy is required, and even that usually needs additional remedial measures. Children are often more open about their trouble than their parents and are greatly relieved to learn the nature and extent of perceptual deficit or social lack. If a child knows the boundaries of his trouble, he won't generalize it. "I can't read" is much less humiliating than, "I'm stupid and can't learn anything."

When we see depressed adolescents who survive through high school but break down in the face of college with the complaint that "it is just all too much," very often it turns out that these are bright children who have compensated automatically for academic disabilities of a neurological sort. They expect failure in any or all spheres since no one has ever diagnosed or imparted to them their real weaknesses so they may avoid or correct them.

Part of the biological inadequacy is the tendency to disorientation which a child has difficulty explaining, sometimes because it is hard for others to imagine, sometimes because of his additional difficulties in language skills. We must listen with special attention to such a child groping to describe his world, a little tilted, elongated or fragmented, peopled by friends and families and classmates who see it differently. He may be as lost in social relationships as in directionality. He tries to convey his beliefs about himself, his exaggerated, anxious conviction of his own unlovability, his realization that somehow he disappoints and provokes his parents, his cloudy belief that if he only tried harder he could learn to be good. Sometimes, the inarticulate ones have moments of great clarity. David said to me last week, "When my mother reads, I can understand. When I read, I can't really hear myself and can't understand. I try and then I get mad and then I goof and then I hate myself."

Unless he is told what we are trying to do at every step, the child will misunderstand. His anxiety and his disability make it hard to convey in any language but the simplest that he is not dumb and bad but immature and limited in some measurable ways. To ask him to solve this problem alone is really too much for him, but he can add his efforts to ours. He must know that medicine will not poison him or dope him on the one hand or magically cure him on the other; that it will only help his own exertions; that an EEG does not read his thoughts or tell us what is wrong with his brain but can let us know something of his physical tempo and pattern.

Both parents and children seem most afraid (with the vague, unstated fear that needs to be formulated) that they will find themselves locked in a battle which no one can win. Parents say, "I cannot control him." It seems useful to convey to both that this is true only if we see the problem as a power struggle between grown-up and child. Victory is possible if parent and child together pool their strength against his weakness.

The older children have learned our lingo and ask, "Why do I do this?" "Am I looking for punishment?" et cetera. Fortunately, their conceptual difficulties often cut them off from our fancier answers and we have noticed that they cannot listen to them. They do better with an explanation less in terms of motivation and more in terms of attendant circumstances. We do not know why John is insolent to father; we know he does it when he is overtired or the family is in a crowded place with neon lights flashing or he is worried about examinations in his worst subject. His anxiety seems to diminish with assurances that he will be helped to avoid these things.

The anxiety of the community

There is much we should do for these children; much is possible but still undone and I would like to close with a remark about community anxiety. We are aware of our collective responsibility to use our best knowledge in the interest of our children. We are anxious and should be anxious until we do. Yet our guidance clinics are clogged with unrecognized neurologically handicapped children, and our foster homes full of children with cerebral dysfunction losing their tempers and their chances to stay in placement because of untreated treatable disability. I am sure it is through the efforts of groups such as this that we can dispel our collective anxiety over tasks undone. We hope that in the future, children will be diagnosed early, their needs met and everyone's irrational fears kept to a minimum. Then we can act directly in their best interest.

DOLLARS AND SENSE - THE ECONOMICS OF LEARNING DISABILITIES

by

James T. Caplinger, Board of Directors, Arkansas Association
for Children with Learning Disabilities, Inc., P.O. Box 160,
England, Arkansas

DOLLARS AND SENSE - THE ECONOMICS OF LEARNING DISABILITIES

James T. Caplinger

In this world of ours where approximately one half of the number of people born since Adam and Eve are alive today, we must realize that quality education in our time is a necessity if we are to prepare our children to function as useful and effective citizens in our ever changing society. Before antibiotics and modern life saving techniques many children alive today would have died at birth or from childhood diseases. Tomorrow in the United States there will be 35,000 more mouths to feed than today. The very medical advances that make this population growth possible increases the number of children with learning disabilities.

What are we doing and what plans are we making to provide educational facilities for this ten percent of our school population that is growing in numbers each day?

Comparatively speaking we are doing a good job. With this population increase and with our emphasis on technical knowledge, it is a tribute to our school boards, school administrators and teacher training institutions that we have expanded our facilities as adequately as we have.

Fifty two percent of all pupils attending high school or its equivalent in the world today are in our United States and we represent only six percent of the world population. But we also have one half the total income, twelve times as much electrical power, twenty two times as much coal, twenty one times as much petroleum and fifty times as much in general equipment as all the rest of the world.

We have made tremendous strides here in Arkansas. According to the latest NEA report of February 1967, we have increased our average teacher salary 111%.

In special education programs for public schools in Arkansas for 1965-66 we spent \$1,731,293.00 and it is estimated this figure will be \$2,000,000.00 for 1966-67 school year. Of the \$1,731,293.00 spent in 1965-66, the local school districts appropriated \$1,095,894.00 with only \$336,154.00 from state reimbursements and \$299,245.00 from public laws 89-10 and 88-164. This emphasizes that the education of these children is primarily a local problem. The right to educate a child belongs to the parent, but the responsibility to see that the child has an opportunity to receive an education belongs to the local and state boards of education.

Nationally we are spending \$3.00 per school day per pupil to train our children in public schools and Arkansas is much lower, \$1.81 per day. Compare this, if you will, with the \$5.24 a day for state penitentiaries, \$10.00 per day for state mental hospitals, \$10.83 a day for the average daily attendance in juvenile detention homes, \$2.86 a day for local jails, \$9120.00 per year for Job Corp enrollee and this does not take into consideration the admitted 26% drop-out ratio. Juvenile delinquency is ten times more frequent among drop-outs than among high school graduates in Arkansas.

These children with learning disabilities must be taught in our public schools

or they will be drop-outs and become prime candidates for one of these more expensive facilities. Do we want to strive for the national average of \$3.00 per day in our public schools or the \$10.83 per day in our juvenile detention homes?

Research has shown that three times as many poor readers as good readers drop out of school. Pupils who do not read well enough for the work of their grade or subject are likely to fail and failure produces discouragement. We must always remember achievement precedes adjustment.

The U.S. Department of Labor found that 84% of the drop-outs were behind their peers by at least one year. Any pupil who is two years behind by the time he reaches the seventh grade is unlikely to finish the tenth grade. A study in the Baltimore City Schools revealed that of the children receiving remedial help by the second grade 80% were back in regular class doing acceptable work after two years. Of those who received remedial help in the third grade, 45% were back in regular class in two years. This percentage in the eighth grade had dropped to 3. These statistics prove that intervention must come early in the child's academic career if maximum benefit is to be derived. With early help they go back to regular classes, graduate from high school, and many go on to college.

Of the children in Arkansas starting to school in 1949 in the first grade, 64% failed to graduate in 1961. This has been improved as we see that in the fifth grade class of 1958 only 39.3% failed to graduate in 1966. But can we afford this 39.3 percent drop-out rate? From our 1960 census we find that a high school graduate can expect to earn 30% more in his lifetime than an eighth grade graduate. This reduction in revenue affects not only the individual, but our society in general.

We have 258 professionals in Special Education in Arkansas public schools of which 203 are classroom teachers, 32 Speech Therapists and 23 administrative or educational examiners. Of the 457,737 children of school age in our state, 65,000, according to the March 1967 report of the Arkansas Advisory Council on Public Elementary and Secondary Education, should have special assistance. If we use these figures we have a work load of 320 pupils per classroom teacher. Of these 203 teachers in our schools, 191 of them are teaching classes for mentally retarded and the other 11 are teaching a small part of the remaining 63,000 children with special needs, 45,000 of which are children with learning disabilities. Two to three percent of the school population is mentally retarded and have 191 classes while ten percent have learning disabilities and there are only 8 classes for these children in the entire State. Of 410 school districts in Arkansas for the years 1965-1966, only 68 qualified for reimbursements from the State Department for special education. In 1966-1967 we have 398 school districts and it is estimated that only 75 districts will receive state reimbursement for special education.

These facts and figures seem to indicate that there must be some changes if we are to provide education for all children. The following recommendations are the opinion of the speaker and not necessarily those of the Arkansas Association for Children with Learning Disabilities:

1. We must encourage our local schools to accept the fact that because a child is not functioning in a regular classroom it does not mean that he cannot learn in a different learning environment utilizing special teaching techniques.
2. We should urge all state supported teacher training institutions to include in their curriculum courses leading to a degree in special education. We now have only two quality programs, State College of Arkansas and Arkansas State University, which offer these degrees. Also, all teacher training institutions should include a required course on how to recognize deviations in the learning process.
3. I suggest that you find a good teacher that has a desire to teach these children and provide a scholarship for a summer graduate course so she may start in the fall of 1967 to teach children with learning disabilities. We have had teachers assigned out of their fields through necessity in our schools since I can remember. We cannot wait for 4000 teachers to be certified to teach our children with learning disabilities.
4. A good teacher can give an educational evaluation to determine where to start to help this child with a learning disability. It will be years before we have adequate diagnostic facilities to evaluate all children. It does not take a neurologist to tell if a child is well coordinated, nor a psychologist to tell if a fifth grade student is reading on second grade level.
5. Curriculum changes are needed in Junior High School so all children can be trained to become productive citizens. The traditional academic curricula meets the needs of the 30% that go to college, or even the 60% that are now graduating in our schools, but the other children need extensive work on reading, writing, arithmetic and spelling for one half of the day and vocational training the other half day so they can be prepared to earn a livelihood. Certification requirements should be adjusted to allow both the professional person and the skilled workman to teach his skill in the classroom and laboratory.

Certainly we want to continue to improve teachers' salaries as well as other professionals in the field of education, but isn't it time to give more thought to the learning opportunities provided the children in the classroom? In short, what transpires between the teacher and the child from 8:30 a.m. to 3:00 p.m. should be our new focus of attention.

These recommendations I give you for your consideration.

There is a difference between the needs of children with learning disabilities and the other children that fall into other special education categories. This child has a "scatter" in his learning. He may be adequate in math, but unable to read. This scatter must be brought into balance as early as possible before they experience failure and become maladjusted. There is an urgency in the need for help for children with learning disabilities.

These children can be salvaged and become well adjusted and productive citizens of Arkansas.

The priority list for the school boards and administrators are made according to the demands of the community. If parents and professionals, such as you, recognize the need, have the desire, these children's educational training will be placed at the top of this priority list.