

How Far Can Autistic Children Go in Matters of Social Adaptation?

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The case histories of 9 autistic children, 8 boys and 1 girl, selected from a total of 96 so diagnosed at The John Hopkins Hospital prior to 1953, are presented in some detail and discussed. These children, first evaluated and given the diagnosis at an age ranging from 2 years and 10 months to 8 years and 1 month, are presently in their 20's and 30's. Their development is traced from acute psychotic infancy until the end of 1971. Having made a sufficient social adjustment, they manage to function as self-dependent individuals, mostly well educated and all gainfully employed. Attention is drawn to differences between this group and other autistic patients, maturational and environmental issues as well as to past and present patterns of behavior and personality structure.

In a long-range follow-up study of eleven autistic children, it could be ascertained that two of them, not differing essentially from the others in their basic initial symptoms, had in their childhood attained a modus vivendi which allowed them to function gainfully in society (Kanner, 1971a, 1971b). One, Donald T., is a regularly employed bank teller who takes part in a variety of community activities and has the respect of his fellow townspeople. The other, Frederick W., has a full time job running duplicating machines; he has been described by his chief as "outstandingly dependable, reliable, thorough, and thoughtful toward fellow workers."

It cannot be emphasized strongly enough that—even with the full knowledge of family background, parents' personalities, prenatal, paranatal and neonatal data, developmental milestones and complete physical and psychological assessments—it would have been impossible for anyone to predict this outcome. There was nothing in the detailed observations of the patients' childhood

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development and behavior, nor is there anything in the documented experiences with psychotic children generally, that would offer reasonably sure indicators of prognostic value.

It has occurred to us that an expansion of up-to-date follow-ups beyond the first eleven cases might contribute to the scope of information about the "natural history" of the autistic illness. In this investigation, we have limited ourselves to those who have by now passed the age of adolescence and we have tried to trace their destinies until the present time (January 1972). Out of the 96 patients diagnosed as autistic at the Children's Psychiatric Clinic of The Johns Hopkins Hospital before 1953, we singled out for special consideration those whom we have found to be sufficiently integrated into the texture of society to be employable, move among people without obvious behavior problems, and be acceptable to those around them at home, at work, and in other modes of interaction.

In addition to Donald T. and Frederick W., mentioned above, we came upon nine other such persons. They will be reported in the order of the age which they have now attained.²

CASE MATERIAL

Case 1

Thomas G., born September 11, 1936, was brought to the Clinic by his maternal grandmother on April 19, 1943. The complaint story began as follows:

He acts so silly. First he kissed shoes and now it's watches and clocks. He is awful smart for his age. He is not a bad child, more of a girl, quiet. He does not play with children. He comes in the house and shuts the door when the neighborhood school is let out.

Thomas was born at term. His mother, 17 years old at the time, had "kidney trouble" during pregnancy. Delivery was normal and birth weight was 7 pounds. Thomas sat up at 6 months and walked at 18. He had measles at 2 and a T&A at 3 years of age. There was no history of severe illness.

²For the sake of accuracy, we must point out that we have so far been unable to trace the whereabouts of one patient since 1962, at which time he was doing exceptionally well in college; we have not given up the search but cannot include him in this report. Another patient, who excelled in mathematical physics on a scholarship at Columbia University, might well have figured in our account had he not been run over by a truck on New York's Broadway and killed several years ago.

The father, an upholsterer of Italian extraction, the son of a municipal band conductor and nephew of a composer, died in 1941 at 31 years of age in a tuberculosis sanitarium. The two parents had lived together only from January to December 1936. The mother gave Thomas little attention because "she feared he would give her tuberculosis" (which he did not have), touched him "as little as possible" and frequently went off leaving the child long periods to be cared for by the paternal grandmother who was "on relief" in New York. When the maternal grandmother finally took full charge of Thomas, who was then close to 4 years old, he still had no sphincter control and did not talk. The boy improved quickly and remained with her until he attained school age and rejoined his mother, who had remarried. He was entered in the first grade but soon had to be taken out because of his "peculiar behavior"—paying little heed to directions and insisting on kissing other children's shoes. Thomas was returned to his maternal grandmother who, sensing that he was not well, brought him to our Clinic.

He was in good physical health. At times he answered the examiner's questions and at other times stared ahead or giggled to himself. He was very preoccupied with watches, for which he had a special name: "I like to fool with *dishnishes*—they go tick-tick . . . watches get me excited. It makes me *embar-ranness*." He referred to his two grandmothers in terms of their ages: "One is 64 and one is 55. I like 55 best." Generally fascinated by numbers, the boy had to make sure how many pages a dictionary or a Sears Roebuck's catalog had, when he spotted them in a room.

Thomas was followed at the Clinic for several years by the social worker to whom he took a liking. For a time it was difficult to get him away from his engrossment with watches and numbers. Obsessions, after running their course, shifted consecutively to measuring cups, maps, and astronomy. He did quite a bit of drawing, was very serious-minded, never cried and became upset by sad pictures or stores. There was some slowness in the boy's response. Before giving details about what went on in school, he would say: "Wait, I have to get it in my mind first." With other children, he never took the initiative but joined in their games. Thomas took piano lessons, won a scholarship and always enjoyed playing.

At 12 years of age, he was at the top of his class in the sixth grade. The school considered him "adjusted," though he was still looked upon as a "queer fellow." Thomas' marks were excellent. He spent one term each in the school's athletic association, art club, and newspaper, and helped the librarian after school. He also took on a central part in a demonstration during a folk dance. Teachers liked him because of his good academic performance: "He works

slowly but what he turns in is excellent." Schoolmates neither accepted nor entirely rejected him. He was the butt of much teasing finding it best to ignore because, if he teased back, "it got worse."

After graduation from high school, Thomas got a Johns Hopkins University Scholarship, which was discontinued after 2 years because his marks were not good enough. He then enlisted in the military service. Because of the slowness of his responses, Thomas was after 5 months directed to undergo medical examination. While at the hospital, he suddenly had a *grand mal* seizure and received a medical discharge. Thomas managed to go back to evening school and earn his college diploma. He continued to experience seizures when neglecting to take his medication regularly.

Interests in astronomy and music provided much personal satisfaction and some social contact. Thomas was a scout leader in demand to teach astronomy and also play the piano. He belongs to a swimming and athletic club and likes to read about science and astronomy, but not fiction.

Among his several jobs was that of a file clerk at a Government agency for a period of five years. He changed this position for work in a military test center focused on electronics and science.

In 1969, the grandmother, now 83 years old, had to be placed in a nursing home. Due to negligence in taking medication, Thomas had another seizure and lost his job. Rather resourceful in rapidly securing other employment, he now works for a charitable organization. Thomas owns a house which he bought several years ago, drives his own car, and plays the piano and tape recorder when at home. He is not interested in girls: "They cost too much money."

Case 2

Sally S., born May 6, 1937, was first seen at the Clinic on March 8, 1943. There were the typical pronominal reversals. An excerpt of the summary states:

Sally is a well-developed, attractive, intelligent-looking girl. Physical examination showed no noticeable abnormalities. Her main difficulty lies in disability to relate to persons and situations. Aloneness and a marked degree of obsessiveness are the outstanding features, combined with a phenomenal memory and unusual dexterity in solving puzzles considerably beyond her age level.

Both parents were college graduates. The father, an advertising copywriter, was described by his wife as "devoted to his family, not a particularly warm person but everybody likes him; he does not put himself out for people, as I do." The

mother, a librarian, spoke of herself as "extremely democratic, a high-strung person; I cross the bridge before I get there." The paternal grandfather, a "brilliant lawyer, who got himself involved with women and alcohol," committed suicide; his widow ran a home for old people. The maternal grandfather, a surgeon, died of cancer; the grandmother taught school for some time. A brother, three years older than Sally, was described as rebellious and defiant.

Sally was born normally at term. Reported to be "an exceedingly healthy child," she stood up at 10 months but did not walk until 22 months. "Since a time when she was less than one year old, the girl would scream when members of the family would fail to sit down in their usual chairs, if the routine of the daily walk was changed, if the order of the dishes on the tray was altered, or when she was hindered in going through one special door leading into the garden." She was obsessively interested in all processes which had to do with body functions.

Sally went regularly to school in her home town. At 13 years of age, while in the sixth grade, she had a full scale WISC score of 110 (verbal 119 and performance 98). Among her school marks were A's in Spelling and French, B's in Geography, Mathematics, Bible, and Art, and C in English. She was reported by the school psychologist to have "difficulty with relationship aspects of adjustment."

Seen again at the Clinic on December 6, 1953, the girl was characterized by her mother as follows: "Since you saw her in 1943, Sally has learned to adjust socially. She is now in the eleventh grade. Her records show her depending too much on her memory instead of any power of reasoning." Sally spoke of herself as "a plugger," indicating that she put considerable pressure on herself in order to do well: "Up to last year, the fundamentals of learning have been easy because of my good memory but this year it is the interpretations, and this is difficult for me." Sally had the ambition to go to college but added: "I may be hitching my wagon to a star." About her relationship with schoolmates she said: "The girls are very nice and friendly. There are some points in which I am not close to them. I don't have the interest in boys that most girls of my age have." She expressed concern about her brother who was expelled from school because of drinking and misconduct and had a job at a gasoline station. Sally called him "a strong victim of adolescence—he needs real psychiatric help."

After finishing high school, Sally was successfully enrolled in a woman's college, graduating with a B average. She decided to go into nurses' training and tried to live up to the rules and regulations. Rotation through the different departments, prompted difficulties in adjustment at the beginning of a new service: "Maybe I was anxious to do too well." While on the obstetrical ward,

Sally was asked by the dean to reconsider her plans. Having been told that 20 minutes were the usual time for breastfeeding, she entered the room at the exact moment and took the babies away without saying a word; there were many complaints from the mothers.

Sally readily accepted the suggestion to take up laboratory work and has done well in this field since then. In 1968, the family moved to Chicago and the young woman secured a regular job in one of the hospitals in that city. She is appreciated "because of her excellent facility in chemistry." A psychiatrist consulted in August 1970 writes: "She struggled for a long time to expand her social life Currently she has been dating a man for the past six months but it is clear that Sally is frightened by any intimacies. She has, with some encouragement, used her interest in music to establish herself in a church-affiliated singing group."

Her father committed suicide in 1969 and her brother is an alcoholic. Sally remains interested and proficient in her work and persistent in efforts to sustain relations with friends and acquaintances. The young woman and her mother remain on good terms and are in contact with each other.

Case 3

Edward F., born October 11, 1939, was first seen on November 15, 1943. His mother said that he was a retarded child who had always appeared very withdrawn:

He is happy in his own world. He was about 3 years old before he knew members of the family. He has certain stereotypes, has to touch telephone poles, will lay sticks against the pole and walk round and round. He talks better than he understands.

Edward was the younger of two boys and two additional brothers were born later. The father, a lawyer "of worrisome disposition," who was 34 years old at the time of Edward's birth, consulted a psychiatrist in 1939 because of "anxiety about work, fear about making mistakes, panic at night." He had always been "interested in things political, world events, hiking and mountain climbing." The mother, two years younger and also a college graduate, worked as a social worker until marriage at 26 years of age, "always interested in people, fairly well balanced, perhaps extremely logical, always has 4 or 5 reasons for or against." An older sibling was described as healthy and well adjusted.

Edward was an attractive, slender, intelligent-looking boy with vivid dark eyes. Immediately after entering the office, he went after crayons and paper and

became absorbed in them. At his mother's insistence, he "read" from a book which he had brought along by repeating remembered passages and interspersing them with neologisms of his own coinage. The boy then tried to jab the point of a pencil into the secretary's leg; when diverted, he attacked a paper bag. He could be engaged in games usually used with very young children.

Edward was born about three weeks before term, weighing 5 pounds and 14 ounces; his "finger nails were not quite developed." He was a planned and wanted child, "never very active." Apathetic as an infant who did not nurse vigorously, Edward did not appear to be aware of his surroundings. The difference from other children was noted when he was 4 months old: "When you picked him up, he relaxed in your arms rather supinely. Almost from the beginning he seems to have had no desire to grow up."

The child sat up at 7 months and walked at 20. "He preferred to crawl even after he learned to walk, had flat feet, wore corrective shoes, and walked like a drunken sailor." Fine muscular coordination developed better than gross motility. Speech development was "slow and unusual." When he finally started to talk, his speech consisted mainly of repetition of what he had heard. Bowel control was acquired at an early age. Wetting by day stopped when he was past the age of three.

When Edward was still an infant, his mother resumed work and he was cared for by the maternal grandmother and a maid, both described as patient with him. When seen at the Clinic, the mother had ceased to work as a result of increasing concern about her son. He was beginning to develop an attachment to her.

At five, Edward was admitted to the Henry Phipps Psychiatric Clinic where a ward had been set up for a few months to study autistic children. He seemed unaware of his environment; however, his later memory of this experience was an unhappy one as he was afraid of the other children.

At six, the boy attended a kindergarten with an understanding teacher who let him participate in group activities or keep him out depending on his readiness. The mother, pleased with his improvement, said that he talked, acted and looked like other children, but appeared different from them in his "limited social ability, restricted interests and peculiar way and rate of learning." In general, he had become "a happy and pleasant child to live with," although he "obviously had a long way to go."

At seven, Edward entered a class for the retarded where he stayed for two years. The family felt that his stay in this class under a sympathetic and interested, although not too well trained, teacher was of incisive importance for Edward's growth. Although at first difficult to control, he made much progress

there. When punished by being kept home a day, the child "got the point." The principal agreed to take Edward into the second grade. He had done so well at the end of the year that advancement to fourth grade was recommended. After that accomplishment he was able to keep up with the school work, although his social difficulties continued. An attempt at participation in a scout troop proved too difficult.

Edward had always been musical. At 12 years of age, he took music lessons and seemed to have great facility in composition. The parents were unhappy when he dropped the music at the end of the year, fearing that high school work would require too much. His obsessiveness was not as bad but he continued to show "fixed ideas."

When seen at the Clinic at 13 years, Edward was doing moderately well academically in the eighth grade of a public school. He still suffered from major disabilities in his interpersonal contacts, had an idiosyncratic way of expressing himself and great difficulty in comprehending social situations.

In 1970, the mother wrote that he had gotten along so much better than they had ever expected. Edward finished high school at 19 and wanted to go to college. She attributed this to the pressure he felt to do like the others in the family. Tests were arranged which showed him high on verbal ability and mediocre in performance. It was felt, however, that he could try. Edward went to a state university and took courses in horticulture. He could not master the chemistry, shifted to history and got his B.A. degree at the end of five years. He lived at the dormitory but made no lasting friends.

After graduation, Edward obtained a good horticultural position but he could not make the grade and was asked to leave. This event was very upsetting to him. For the last few years, he has been working at a government agricultural research station in a "blue collar capacity." Edward does not like this too well preferring to associate with "educated people." He has his own apartment and entertains himself with his Hi-fi set. He has bought a car with money that he has saved. He enjoys an active social life, belonging to hiking clubs and he has led hikes. His knowledge of plants and wild life brings him respect. He has begun to date girls. He comes home on weekends when he has time, and he is very welcome.

The mother adds: "We could, of course, write volumes on all the special things we had to do for Edward and with Edward at each stage of his life—but at this time he is completely independent and self-sufficient. I do believe that he enjoys life."

Case 4

Clarence B., born June 15, 1940, was first seen on May 31, 1945. The nursery school that he had attended for two years said of him:

Clarence is an awkward, tall, thin youngster who always seems glad to come to school. His tendency to be quite tense and to repeat certain behavior patterns has been very marked. He remains an individual resisting change and appearing oblivious to his surroundings. His responses have seemed more a matter of personality pattern than a lack of intelligence. He has shown increasing interest in letters and words, the clock and pictures. Clarence rarely comes directly into the school; he had varied from stopping in the hall to look at the clock to listening to the sound of the drinking fountain. Any of these things, once started, persists day after day and week after week. Though he takes no interest in other children, he has shown real excitement over their name tags. When he entered school, he talked little or none. The few things he said, as in naming pictures in a book, were incomprehensible to most of us. Now he speaks distinctly. He repeats questions asked him rather than making a reply.

Pregnancy, birth and motor development were normal. Verbal utterances began at about two years, but were poorly enunciated. There was marked echolalia. "As a baby," the mother recalled, "he did not care much for cuddling." He had "an excellent memory for places, names, happenings, and stories."

A thorough pediatric examination proved Clarence to be in good physical health. In the Binet test, at 6 years, and 4 months, he scored at 5 and 9. He passed the third grade clinical reading test.

Clarence remained at home and went to public school. He was followed regularly by a psychologist who often informed us about developments. The parents, who also kept in touch with us, by 1951 said that he was "making a fair adjustment," that "there are times when he exhibits normal behavior," that "he is relating to people much better." Clarence read a great deal, made some progress in oral work, but did not join in conversations with his classmates. He had gone through a stage of preoccupation with "volcanoes, fires, diseases, sudden death and destruction." At one time, the parents were concerned about strong sibling rivalry.

In July, 1954, after finishing the eighth grade with A's and B's, Clarence spent the summer at the Devereux Camp, where he did well. At the Devereux Schools where he was enrolled, it was noted that he began to show concern about being accepted by his peers. He "made many continuing efforts in social relationships."

Clarence graduated from high school in June, 1958, with excellent marks and superior achievement test scores. After spending the summer with his parents, he

was admitted to a college in Illinois, where he received his B.A. degree in 1962. While there, he "socialized" with a girl for a while. Going then to a college in Massachusetts on a scholarship, he felt isolated, and went home to write his thesis. After obtaining his Master's Degree in economics, he studied accounting at his home state university. Clarence got a job with the state planning office and promptly decided to study planning; he did everything required for another Master's Degree except for the thesis.

He might have done well at the job he obtained if it had not been for the fact that he was given a supervisory position. This was too much for him and he was dismissed in October, 1970. For a year he remained idle, for a time having a newspaper route. Finally, he applied for a job more in keeping with his education and is now employed as an accountant, at \$7,500 a year.

Clarence gets along well now and has his own apartment. He obsessively tries to make social contacts. "He is awkward socially but can make a superficial adjustment," states a recent report. He senses embarrassing situations to the point of asking: "What am I doing wrong"? Although he dated a girl, she "broke off" after about nine months. Clarence feels that he ought to get married but that he "can't waste money on a girl who isn't serious." He likes driving a car and, as a hobby, collects time tables to maintain his interest in trains.

One sister has a Master's degree in education, the other sister in the history of art. Both are married; one has four children whom Clarence likes to play with; "he gets on the floor and they crawl all over him," the sister says.

Case 5

Henry C., born December 13, 1943, was first seen on May 26, 1947.

He could not carry on even a simple conversation, a matter of considerable concern to his parents, even though with some coaxing he managed to say a few words. At the same time, the boy could identify every letter of the alphabet and also the punctuation marks. The child had a sizeable repertoire of tunes and exhibited considerable skill with blocks. He handled the Seguin formboard at his age level.

Both parents were college graduates. The father returned from the armed services in April 1947, having been away since Henry was 6 months old. He spoke of himself as a perfectionist ("bugs on keeping things in order"). The mother, who in her earlier years had to struggle with adjustment to her epileptic condition and to her mother's obsessive domination, was extremely tense whenever she picked up the baby for fear of dropping him during convulsion. In

fact, she did so on one occasion which, though not injuring the child, increased her anxiety. She left the child alone most of the time, feeling that this was what he liked best.

On the boy's sixth birthday, he was placed by his parents in a foster home where he improved remarkably: "He does beautifully with words now" (March 1949), using good syntax, though occasionally reversing pronouns. In 1950, he was "no problem" in regular kindergarten: "He seems to be happy within himself and is slow in making overtures toward other children." There was a good relationship between Henry's foster parents and his mother. Henry's parents were considering divorce: the father was referred to as "an isolated iceberg."

In 1952, Henry decided to change his name, at first to that of his foster parents; then, retaining his first name, he gave himself a middle name after his patron saint and a last name after a movie actor. Eventually he had his name duly legalized.

When seen at the Clinic in July 1954, Henry related personal interests and incidents in a dramatic fashion but became uncomfortable when others tried to have him elaborate. He was passing into the fifth grade even though his school work was of a marginal quality; "the school recognized his difficulties and has agreed on a policy of promotion." At home, he was preoccupied with death and killing, both in his remarks and in his drawings.

In August 1956, Henry's mother was found dead (the janitor had to break into the apartment) when he and his foster mother went to visit her. The coroner's autopsy reported "natural death" (?). Henry, when informed, "cried a little but it was not difficult to distract him."

While Henry did well in school, at home he was rude and insistent, especially after visiting his father. He spent much of his time writing "horror stories, murder, science fiction." After learning to use the typewriter, "the stories became longer, more vivid, bloodier, and very often did not make much sense."

In the fall of 1958, Henry was entered in a boarding school, which he liked. Spending his weekends with the foster parents, he declined his father's invitations to stay with him.

In our usual efforts to follow the destinies of our patients, we corresponded with the father, the foster parents, and a financial guardian who for a time looked after a small sum left by Henry's mother and who, having moved to India, wrote us from there on October 4, 1971:

... I first saw Henry at 2 or 3 years when my wife and I visited his parents and played bridge in their apartment. He was somewhat like a

wild animal running back and forth across the living room until he became exhausted. The next time I saw him, he was 15 and we had a very interesting conversation. I felt at that particular time that he appeared to be quite normal. His letters also indicated to me that he was being fairly well adjusted. I thought that it was quite remarkable that he was pretty much on his own since then.

We wrote to Henry himself when we learned of his address. Early in January 1972, he sent us a lengthy autobiographic letter; regretfully, we cannot reproduce it word for word but the following is an abstract:

On June 29, 1962, at 19½ years of age, he entered the armed services. Upon completion of basic training, he was assigned to one of the intelligence services, received a top security clearance, took courses until December 6, 1962 (the nature of which he could not disclose because they were of a "highly confidential nature"), and received an honorable discharge on January 18, 1963. Then follows a list of various jobs held in California and later in Pennsylvania, (six altogether) mostly as a "general office worker"; at present he is "chief inventory controller in a Motion Picture Laboratory" where he has received "several healthy pay increases." After drifting around, he feels that "perhaps at last, I have found a place worthy of my talent for settling down in." All six jobs were described in great detail, giving dates, description of responsibilities, names and telephone numbers of supervisors, and reasons for leaving the jobs. Generally speaking, "I have never been dismissed from any place of employment because of any working habits or lack of working habits."

The letter addressed "To Whom It May Concern," starts as follows:

I am writing this resume with the intention of giving any person who would wish it a lucid account of my life, educational and working background, and experiences. I am 6 feet tall, weigh 145 pounds, have medium brown hair and hazel blue eyes. I am in excellent health with no history of any severe illnesses or injuries. I have an automobile and a permanent residence. I am also draft exempt and have no criminal record of any kind.

Elsewhere he writes:

As for my future, I have absolutely no worries whatsoever. I live each day as though it were my last, and let the devil take tomorrow . . . I am 28 years old and single (though several girls I know had hoped to change that) with no desire to get tied down for a good

long time . . . I neither smoke nor drink but I do have an uncontrollable urge to gamble. (We all have to have a few bad habits.)

The letter is concluded as follows:

For as long as I live, I shall always remember you, Dr. Kanner, and how you have opened many doors for me. I cannot thank you enough for the limitless kindness you have shown me while rekindling the spark of living within me that had nearly died so very long ago.

Case 6

George W., born February 27, 1944, was first seen on January 11, 1951. His mother complained:

Although he has talked clearly, using big words and sentences since he was 18 months old, he still had never spoken *with* us—that is, carry on a conversation or even answer simple yes and no questions. He lives completely in a world of his own. As an infant he had not smiled like other children. At 2 years, he knew the alphabet and numbers. He never used the first person in speaking.

George was born 5 weeks past term, weighing 8 pounds at birth. He was on a rigid schedule and was awakened for feedings. His first words were spoken at 13 months, he walked alone at 18 months, and bowel control was established at 18 months; bed wetting continued until the age of 6 years. Gross motor development was described as poor and fine motor coordination as good; he could open and close a safety pin and replace the top on a toothpaste tube.

The boy's father, of Spanish (Latin American) descent, was a civil engineer who went into the armed services when George was 6 months old; he was away for about 2 years. On his return, he "had difficulty relating to George" and "kept looking for a physical (glandular) cause of George's problems."

The boy's mother had 3 years of college. "Intellectual pursuits" were important to her and she started George very early with letters and numbers. The case history is full of her expressions of conflicts with her father—fear of his displeasure and resentment of his domination. She blamed herself for anything that went wrong with George, at the same time hoping for some quick, miraculous cure. When the child was about 4 years old, she resorted to drinking for several years until she joined Alcoholics Anonymous.

Because George was not able to get along in kindergarten, he was referred to the Clinic where he developed a tenuous relationship with his therapist. He

echoed things he heard, repeated names that came over the hospital's loud speaker, and used many neologisms. Also, he was preoccupied with traffic lights and with elevators.

At the age of 9, George was admitted to a center for emotionally disturbed children where he remained for 6 years. While there, he had many consuming obsessions, mainly focused on mechanical devices (plumbing, lighting), travel, map making, and physical health (he washed many times a day because of his fear of germs). These preoccupations gradually subsided and he became more interested in group activities, regressing occasionally, usually in association with changes in personnel. However, he did fairly well with his school assignments.

At the age of 15, George returned home and entered in public school in a "slow" sixth grade where "with encouragement but not much pressure" he was able to do the work. His teacher reported:

He conforms to rules and regulations as well as any immature sixth grade child. He plays the violin well, he appears to enjoy the company of his classmates, he is quite friendly and likes to joke. He is particularly fond of poems and plays on words.

George's mother took him out of school when he was in the eleventh grade so that he could concentrate on music. He had played violin in a number of youth orchestras and took courses at a prominent Conservatory. Concerned about not getting a high school diploma, George has, in recent years, spent much of his time subscribing to correspondence courses. He is especially interested in languages, having learned Spanish in school, teaching himself French, and having "a working knowledge" of Italian. At present George is employed as a page in a library and is also in charge of mailing books (mostly to foreign countries).

George lives with his parents. He is helpful with chores at home (to make things easier for his mother who describes him as "dependable") but has no friends and "girls are not interested in him." His major preoccupation now is an overconcern about pleasing people: "He is not relaxed and afraid of doing wrong."

Case 7

Walter P., born June 16, 1944, was first seen on July 8, 1952. He had seemed normal until he was about 3½ years old when his mother noted that his speech was not progressing, he had become unusually quiet (sitting for long periods looking aimlessly around), and finally had just about stopped talking altogether. The child became unduly interested in spinning tops and other toys, was upset

when things were moved from their accustomed positions, paid little attention to the people in his environment, and was slow in responding to being called.

Walter's parents gave the impression of being sociable, well-adjusted people. The father had 2 years of college and worked as an ordinance engineer for the federal government. He was able to give more specific and accurate information about the child than his wife. The mother also had 2 years of college and worked in a bank to provide money for the child's care and treatment. Both parents emphasized the harmony of their relationship. A brother, 3 years older than Walter, was getting along well.

Walter was born at term. At 3 weeks, he developed pyloric stenosis which was relieved by an operation from which he recovered uneventfully. There were no feeding problems. The boy began to talk at 2½ years of age and was fully toilet trained by age 3 without any apparent difficulty or conflict.

When seen at the Clinic, Walter was an attractive child who cooperated in a stiff, automatic way. While he did not relate to the examiner, looking vaguely out of the window and responding only to the simplest questions, he immediately placed all the pieces in the Seguin formboard. The boy would respond to "What is your name?," "How old are you?," "Sit in the chair," but would not cooperate in any verbal tests. His behavior was repetitious, obsessive, and withdrawn.

At 9 years, Walter was still obsessive, used little speech but had progressed some in "play school," he had learned to copy and to spell some words, and was very destructive with anything chipped or broken.

At 10, the child's mother reported that he was "progressing well." Walter attended a school for retarded children, was learning to write and to do simple arithmetic, seeming to enjoy it, but reading was causing him some trouble. Also he was playing and talking better with other children and could give simple messages over the telephone (he was able to say what he wanted). The boy had a variety of rituals, first, tapping his chin until it was red, and later, rubbing his eyes. His mother found him a "lovable little boy" who behaved well when they took him out.

Arrangements were made with a psychiatric clinic near his home for follow-up consultations.

In 1971, the mother gave this follow-up report:

Walter attended a boarding school for exceptional children from 1956 to 1962, coming home on weekends, and then lived with her (his father had died). For 2 years, he attended a day school and then worked for a short time in a sheltered workshop. "Since June 1968, he

has worked at a small restaurant as a dishwasher and bus boy, earning \$1.25 an hour. He seems to enjoy his work, has pleased his employers, and has never missed a day. He is a handsome young man, takes complete care of himself and of his room, and is neat and clean at all times. There are no behavior problems. He helps with the housework and takes care of the yard, including complete care of the power mower. His main difficulty always is in communication. What he says, he says well and in a fairly clear manner, but there is no voluntary conversation. Walter talks enough to make his wishes known, will answer the phone and tell me who is calling, but when I am not home, unless I ask him, he will not tell me if someone called.

Case 8

Bernard S., born August 3, 1949, was first seen on June 7, 1952. He was referred by the nursery school which he attended. His teachers reported that he seemed "more alone than most children" and that he was "in the school but not a part of it." The child showed some bizarre behavior and echolalia. He referred to himself in the third person and often had a smile on his face which was unrelated to anything obvious to the onlooker.

Bernard's father was a pharmacist who spent long hours in his drug store. His mother had manic-depressive episodes and had been hospitalized for a few months 9 years before Bernard was born. She did not become pregnant until 14 years after her marriage, which came as a "delightful surprise."

Very soon after Bernard's birth, his mother became ill again and was hospitalized for over a year during which time Bernard was cared for by a nurse in her home. When the mother took him back, Bernard was 15 months old and was walking "but not feeding himself." The mother was a perfectionist, especially about his eating. She continued to have mood swings and was under the care of a psychiatrist.

The parents separated when Bernard was about 2½ years old. Six months later, the mother disappeared with the child to Florida. The father fetched him back, and placed Bernard with a paternal aunt. One of the nursery school teachers who visited at the time, described the boy as relaxed and happy with his aunt: "For the first time, I heard him speak quite volubly." The aunt did not return him to the nursery school as she wanted him to remain at her home "where he could get some much-needed love and attention, so that he could feel someone really cared for him." The parents came back to live together again and took Bernard home. He was reentered in the nursery school at 4 years of age. The boy had a good memory; he knew the names of all the children in the

school and noted who was absent before the teacher did. However, he could be brought into group activities for only very brief times. In the neighborhood, he stayed in the house because the children would not play with him and called him "that crazy kid." Their attitude improved when he bribed them with cookies.

The father gave a follow-up report when Bernard was 20 years old:

He had graduated from high school at 19 and was struggling with junior college in a general course. His marks had been mediocre. He is not the studying type, seeking a job and a simple uncomplicated life. He lost 2 years of school in shifting around. One year he spent in a "progressive" boarding school, but that proved to be "more of a hippie colony" and his work was poor. The mother died while he was there and then he did not want to go back. After the paternal aunt who had cared for him as a small child came to live with them following her husband's death, Bernard showed marked improvement.

The father remarried in 1968 and Bernard got along well with his stepmother. He had had "no real psychiatric treatment."

Bernard is "backward and shy but that is the way he is." He did approach a girl once for a date in a very negative manner. He hates clothes, drives a car, does best if not pressured and helped his father in the drug store (he did not wait on customers but would fill the shelves). His chief interest is the streetcar museum. He is a member of a club that goes there on Sundays, laying track, painting cars, etc. They take trips. He used to like history, is up on world politics, and reads the newspapers.

Case 9

Fred G., born December 11, 1948, was first seen on August 11, 1952. His parents gave a history of difficulties dating from colic for 6 weeks after birth. He was carried around constantly by members of the family; when the colic subsided, he continued to demand attention. A practical nurse handled this by letting him "cry it out." At 3 months, the child was taken to visit his grandmother and placed unceremoniously into her arms on arrival. He reacted with terror, screaming for the 3 weeks, and since then had a great fear of strangers.

In spite of Fred's ability to go through some of the motions of the Binet test, it was not possible to get his full cooperation. He placed the small formboard figures. When asked to match forms, he named them

first. He ignored people in the room and repeated questions rather than answer them.

Fred was born by Cesarean section, walked at 14 months, and began to talk at one year. His speech was good and he had a large vocabulary but would not use the first person and repeated a phrase rather than say "Yes." Weaning from the bottle was difficult and slow, and there was also conflict over bowel training.

At home, he was preoccupied with music, being able to recognize records just by looking at them when he was 3 years old. He could identify compositions after hearing them by saying: "That's the Moldau," "That's Beethoven's Fifth," etc. Six months before coming to the Clinic, he had been sent to a nursery school where he was fearful of the children. After his mother stayed with him several days, he calmed down but ignored everyone, refused to participate in any form of group activity, and "was just there." The mother said that "at home there could not be a better child." "He likes to be by himself," she added. He would go into rages over inanimate objects that would not do just as he wished.

The father, who wanted to be a physician, took up a related course of study because family finances did not allow him to go through medical school. After 3 years, he abandoned it for government work involving secret documents and assignments. The mother, a college graduate, had taught school several years and quit a year before Fred's birth. She came from "a family of pushers" and had great intellectual drive. The woman expressed a fear that she might be blamed for the child's difficulties. There seemed to be no particular domestic problems. The home atmosphere was one of emphasis on such cultural pursuits as music and intellectual discussion.

For approximately 2½ years, from 1952 to 1955, Fred regularly attended a day care center for emotionally disturbed children. He formed an attachment to the director and saw her often in the years that followed.

When tested at 16 years, he was found to have a full scale WISC IQ of 118 (verbal 126 and performance 104). His arithmetic score was at the ceiling with quick answers on the tests, and comprehension, similarities and rote memory were rated as being of high average. On the Rorschach, he showed "sharp alterations between impulsivity and repression" and "a struggle between feelings of relationship and isolation."

At 23 years of age, Fred is doing well at a university where he has a B plus average and is gifted in mathematics.

He has adjusted well in college life and his schoolmates respect his academic prowess. The young man has sloughed off his obsessive preoccupations. For instance, he dresses well but is not as compulsive about clothes as he used to be.

Though described as "awkward and intellectual," he tries, at least on the surface, to take part in the concerns which he knows should be those for his age, even "experimenting" once with a double date arrangement (not repeated). Fred drives a car skillfully, with full knowledge of all the parts, and in his spare time has done some composing and built a telescope.

Until his first year in College, Fred had always lived with his parents. After some hesitation, particularly by the father, they supported his decision to move to a dormitory.

DISCUSSION

Now that 29 years have elapsed since the identification of early infantile autism, the children so diagnosed in the first decade of its recognized existence have reached adulthood. Despite considerable mobility of some of the families, it has been possible to learn about the patients' present status. The first of an anticipated series of follow-ups appeared last year as a report of the destinies of the eleven children whose condition had suggested and crystallized the specific syndrome (Kanner, 1943, 1971). Altogether, 96 patients had been designated as autistic before 1953 at our Clinic, the "birthplace" of the syndrome. Of this number we have selected those now capable of functioning in society. Besides the two presented in 1971 (Donald T. and Frederick W.), we have sketched the biographies of nine such persons (one female and eight males), currently ranging in age between 22 and 35 years. The nosological criteria, set down in 1943, had been uniformly applied to all 96 children.

The value of catamnesis has been sensed for quite some time. As far back as the early 1940's, Cottington (1942) compared the results of shock treatment, psychotherapy and socialization of a few psychotic children, none older than 14 years. Lourie, Pacella, and Piotrowski (1943) in a review of 20 children "with schizophrenic-like psychoses," saw three types of "adjustment": (1) Apparently normal (4 cases); (2) fair to borderline (5 cases); and (3) low grade (11 cases). These reports were pioneering innovations at a time when interest was centered mainly on description and speculation about etiology. However, they dealt with categories rather than individuals, whose subsequent fate after childhood or at most the early teens has remained unknown.

Continuous curiosity about the patients' progress has always been one of the primary concerns of our Clinic (Kanner, 1937a, 1937b). Names, symptoms, diagnoses, and any other relevant items were cross-indexed for all. Since, except for our own communications, early infantile autism did not enter the public arena until about 1950, our Clinic saw itself as a quasi ex-officio archive for all

that pertained to the syndrome, to be kept in flux and added to as time went on. This gave helpful information for a study (Kanner & Eisenberg, 1955) which comprised children with an average age of 14 years and yielded one finding of potential predictive value:

The prognosis has shown to vary significantly with the presence of useful speech at the age of 5 years, taken as an index of the severity of autistic isolation.

Many are now in their 20's and 30's; all but two of them were available for "check-ups" in 1971. Their biographic profiles are—and will continue to be—a part of the "archive" and have aided us in picking out those who have gone farthest in terms of social adjustment.

Eleven autistic children (9 in this series plus Donald T. and Frederick W. reported in 1971) have emerged sufficiently to function as adults in varying degrees of nonpsychotic activity. Three have college degrees, three had a junior college education, one is now doing well in college, one graduated from high school, one passed the eleventh grade, one went to a private "boarding school for exceptional children," and one received vocational training in a sheltered workshop.

Their present occupations are bank teller, laboratory technician, duplicating machine operator, accountant, "blue collar job" at an agricultural research station, general office worker, page in the foreign language section of a library, bus boy in a restaurant, truck loading supervisor, helper in a drug store, and college student. Two (Thomas G. and Henry C.) had enlisted and been accepted by the armed services but were "honorably discharged" within a year.

What distinguishes them from those who, remaining wholly isolated, did not make the linkage with society?

In comparing the two groups, no difference could be found with regard to ethnic origin, family characteristics, or specific intercurrent events. Nor is there anything in the features of physical health that stand out as a contrast, though Thomas G. began to experience convulsions after his twentieth year.³

We did, however, find a number of items which were shared by the patients who form the nucleus of this study. They have to do with a variety of maturational and environmental issues and with the patients' type of reactions to the growing awareness of their peculiarities.

³The onset of epileptic phenomena is not too uncommon in the lives of autistic persons, even when earlier EEG's had shown no abnormalities.

All of them used some speech before the age of 5 years. This in itself cannot be taken as an all-valid prognostic sign because many who had done likewise have failed to reach a similar degree of emergence. What characterizes our group is a steady succession of stages: No initiative or response—immediate parroting—delayed echolalia with pronominal reversals—utterances related to obsessive preoccupations—communicative dialogue with the proper use of personal pronouns and greater flexibility in the use of prepositions.

Not one of them had at any time been subjected to sojourn in a state hospital or institution for the feebleminded. This seems to be significant in view of our experience that such an eventuality has invariably cut short any prospect for improvement (Kanner, 1965). All of our eleven patients here considered have remained at home at least before school age and some quite a few years longer. Three still live with their families, the others—whether in foster homes or boarding schools—had regular contact with their relatives. However, many other autistic children who stayed at home did not advance as those eleven did.

One recurrent theme, though, could be noted as specific for our group in clear contrast with the non-emerging autistic children: a chronicle of gradual changes of self-concept and reactions to them along the road to social adaptation.

In the first few years of life, there was in this respect no difference between any of our 96 patients now over 20 years old. Their isolation with all its corollaries—neither chosen nor imposed from without—was a form of existence which was had, lived, experienced rather than contemplated or reacted to. It was part of an innate illness not perceived as such by the ill child who was contentedly (though pathologically) "adjusted" unless threatened by external interference with the status quo. There was a minimum of centrifugal reaching out and a minimal response to centripetal incursions. As time went on, some of the incursions began to be tolerated in varying degrees. Unless they became too overwhelming and the child was pushed back into self-incapsulation until his status was barely distinguishable from extreme mental retardation, he was making compromises to the extent of verbal interplay, demanding parental assistance with his rituals, falling in line with I-You identification, superficially going through the symbolic acts of shaking hands, hugging and kissing, and generally yielding to the rudiments of domestication. This carried over to nursery school and kindergarten, at least in terms of joining mechanically in routine activities, first on invitation and then more or less spontaneously.

Our eleven children went through the same stages. It was not until the early to middle teens when a remarkable change took place. Unlike most other autistic children, they became uneasily aware of their peculiarities and began to make a conscious effort to do something about them. This effort increased as they grew

older. They "knew," for instance, that youngsters were expected to have friends. Realizing their inability to form a genuine buddy-buddy relationship, they—one is almost tempted to say, ingeniously—made use of the gains made by their obsessive preoccupations to open a door for contact.

Thomas G. joined the Boy Scouts and found recognition by teaching astronomy and playing the piano; he also joined a swimming and athletic club. Sally S. utilized her good memory, of which she was fully aware, to merit acceptance in high school and college; when she failed as a student nurse because the maintenance of a genuine relationship with the patients was beyond her capacity, she became a laboratory technician and has made a reputation for "excelling in chemistry." Edward F. enjoys an active social life belonging to hiking clubs, and his knowledge of plants and wild life brings him respect. Clarence B. "obsessively tries to make social contacts; he is awkward socially but can make a superficial adjustment." Henry C. enlisted in the Army, had several well-paying jobs and "has an uncontrollable urge to gamble." George W. is "over-concerned about pleasing people." Walter P. satisfies his social needs as bus boy in a restaurant and "pleases his employers." Bernard S. is a member of a street car museum where he lays tracks, paints cars, and goes on trips. Fred G. is respected by his schoolmates because of his academic prowess.

Again and again we note a felt need to grope for ways to compensate for the lack of inherent sociability. Out of this developed a paradoxical use of the previously self-serving, isolating obsessions which instead come to serve positively as a connecting link with groups of people.

The contacts thus established led to the discovery that the boy-meets-girl issue was paramount in the talks of the companions. Again, there was a vaguely felt obligation to "conform." Those attempts were sporadic and short-lived. The "explanations" offered indicated that there was not too much displeasure with the absence of any real involvement.

Henry C. reported that he was single, that several girls "had hoped to change that" but that he had "no desire to get tied down for a good long time." Thomas G. declared categorically that girls "cost too much money." Clarence B., who "socialized" with a girl for a short time in college, stated that he "ought to get married but can't waste money on a girl who is not serious." Bernard S. was said to have approached a girl once for a date "in a very negative way" (inviting rebuff). Fred G. "experimented" *once* with a double date arrangement (never repeated).

George W. made things easy for himself by deciding a priori that girls were not interested in him. Sally S., the only girl in our group, once asked seriously at 23 years of age what she ought to do if ever she fell in love with someone, an experience she had never had before. She said: "I have never had the interest in boys most girls my age have." At 30 years, she dated a man for a few months but gave this up because she was "frightened by any intimacy."

COMMENT

On the basis of the recorded and discussed observations, the question raised in the title of this paper can be answered with reasonable certainty. Not counting the gifted student of mathematics killed accidentally and the young man whom we have so far lost track after 1962 when he was in college, eleven of the 96 autistic children known to our Clinic since before 1953 are now in their twenties and thirties, mingling, working, and maintaining themselves in society. They have not completely shed the fundamental personality structure of early infantile autism but, with increasing self-assessment in their middle to late teens, they expended considerable effort to fit themselves—dutifully, as it were—to what they came to perceive as commonly expected obligations. They made the compromise of being, yet not appearing, alone and discovered means of interaction by joining groups in which they could make use of their preoccupations, previously immured in self-limited stereotypies, as shared "hobbies" in the company of others. In the club to which they "belonged," they received—and enjoyed—the recognition earned by the detailed knowledge they had stored up in years of obsessive rumination of specific topics (music, mathematics, history, chemistry, astronomy, wild life, foreign languages, etc.). Reward came to them also from their employers who (as confirmed in statements sent to us) remarked on their meticulousness and trustworthiness. Life among people thus lost its former menacing aspects. Nobody has shoved them forcibly through a gate which others had tried to unlock for them; it was *they* who, at first timidly and experimentally, then more resolutely, paved their way to it and walked through. Once inside, they adopted some of the values they found there. Material possession became an object of ambition. Those who are not with their families (eight of the eleven) live by themselves; one (Thomas G.) even owns a house which he bought several years ago. All drive automobiles and there is no record of accidents or traffic violations.

There have been equally duty-bound, though haphazardly pursued attempts to form personal friendships. These were far less successful. Failure apparently was not met with major frustration, self-reproach or accusation of others. There

even was a sense of relief in matters of dating; ready rationalizations were: "a waste of money," "cost too much,"; Sally had a dread of "intimacy," Henry did not feel like being tied for a long time. No one in the group has seriously thought of, or is now contemplating, marriage.

This, then, is the profile of eleven autistic children, now adults, whose social adaptation does not run counter to the general run of the populace. It differs essentially from that of at least 83 of the 96 other autistic children in the series. Fascinating as it is, it does not offer a definite clue for the cause of the difference. The presence of speech before the age of 5 years and the fact of being kept out of state institutions are helpful hints but, being shared with some of the non-emerging children, they can only be viewed at best as straws in the wind pointing to prognostic probabilities.

Hence, at least for the time being, there is no alternative to the idea expressed at the close of our 1971 follow-up: "It is well known in medicine that any illness may appear in different degrees of severity, all the way from the so-called *formes frustes* to the most fulminant manifestation. Does this possibly apply also to early infantile autism?"

It must be kept in mind that our "emergers" grew up in the days before the introduction of therapeutic techniques especially intended to remedy the autistic illness, be they based on circumscribed psychotherapeutic, psychopharmacological, or behavioristic orientation. Would any of those have in any way altered the outlook for our 96 children? Will any of those increase the ratio of "emergers" in the future? What can we make of the fact, documented in this study, that almost 11 to 12 percent "got there" without any of those techniques? Now that a number of state hospitals have divisions for the personalized care and treatment of children, can we look upon admission of autistic patients to them with better expectations than before? Will the biochemical research now vigorously under way uncover early indications pointing to prognostically reliable assessments of the degree of severity of the autistic illness?

All these are justifiable curiosities with important practical implications. It will take time to satisfy them. Continual follow-up or even better follow-along, will—as we hope that this study does—prove in the long run to be of great importance. Our astute readers have undoubtedly noticed that this paper is being presented with a twofold purpose. One is, of course, patently announced in its title. The other, more implicit aim is an attempt to set up a sample for follow-along and follow-up studies hopefully to be conducted in clinical and research centers as the intervals between childhood and adulthood of autistic patients keep lengthening.

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