CHAPTER 49

A Personal Perspective on Autism

TEMPLE GRANDIN

Many people ask me, "What was the big breakthrough that enabled you to lead a successful life?" There was no single breakthrough. My development was a gradual evolution that had many small but important steps. If I had fallen off any of those steps, I would have ended up in a school for the retarded or at a job that would have been below my abilities. Today, at the age of 49, I am an assistant professor of animal science at Colorado State University. I have designed equipment and stockyards for most of the major U.S. meat companies, and have published a book on livestock handling (Grandin, 1993). During the past 5 years, I have continued to develop and mature. Being autistic is like having a very long childhood, I did not feel like an adult woman until I was 30 years old.

There were 10 major steps in my development, and a good education accounted for 3 of them. My education steps were:

1. I was enrolled, by age 30 months, in a structured nursery school program run by a trained speech therapist. I stayed in the nursery school for 2 years. Five or six other children were in the nursery school class, which lasted for about 3 hours each day. I had about 20 hours of structured group activities and a half-hour of one-to-one speech therapy every school day. The therapist held my chin, fused eye contact, and made me say different words. I returned home in the middle of the day, and then spent another 2 hours each afternoon playing games with my governess. The games forced me to interact so I would not withdraw into the world of self-stimulation, where I shut off my ears. The governess participated with me during sledding, swinging on the swings, rock climbing, skateboarding, and catching a ball. I was constantly encouraged to interact with her.

2. I mainstreamed in a normal kindergarten at a school that had small classes (only 12 to 14 students) taught by experienced teachers. I remained in this school through sixth grade.

3. My mother taught me how to read when I was in third grade.

4. At the age of 14, I was enrolled in a small country boarding school after I had been expelled from a large junior high school for fighting with another girl, who had teased me. My problems in junior high school started at puberty.

5. Two teachers at the boarding school developed my interest in science and used it to motivate me to study. One of the teachers continued to serve as an important mentor after I married at a small liberal arts college near the boarding school. He was an important source of encouragement and support during my first 2 years in college, which were very difficult.

My educational program was not a hocus-pocus magic cure. Steps 1 through 3 above could have easily been achieved in a well-run public education program. I owe my success to my mother, the professionals who told me that I belonged in a school for the retarded. Fortunately, my parents had the financial resources to send me to the boarding school. I speculate, with dread, about what would have
I was not a heroin user, nor could I be a well-run public school, nor my success to my parents who told me for the retarded, as the financial re-investing school. I'm not sure what would have happened to me as a teenager if my parents had not held me to pursue me to the boarding school. I would have been in big trouble. However, many of the problems in junior high school could have been avoided if the kind of interest teachers I found at the boarding school had been available. Good teachers would have kept me out of trouble and stimulated my interest in science.

The sixth step was Aunt Ann and her ranch in Arizona. I visited her during the summers, in the years I was in high school and college. She tolerated my endless fixations and helped me to understand myself. Other people, and professionals, wanted to normalize my behavior. Ann stressed to understand it and direct it toward constructive goals.

High-functioning autistic students in high school and college also need mentors to prepare them for the world of work. At autism conferences, I have met many talented people with autism who have successfully graduated from high school or college and then have been unable to find jobs. Their problem is that they lack the social skills needed to get through the job interviews. The traditional job interview process has to be short-circuited; people with autism must be able to demonstrate their abilities to the people they will actually work for.

The seventh important step was finding mentors in the business community who recognized my abilities and were willing to work with me. Through a freelance writing job for a farm magazine, I found two important mentors who helped me to learn about the meat industry and feedlot construction. Tom Rohrer managed the Swift Meat Packing Plant, and Emill Wenskosky worked at a feedlot construction company. Both of these men tolerated my eccentricities and helped to develop my abilities. Emill hired me, and his secretaries gave me lessons in grooming and social niceties. Videocassettes who work with autistic children need to seek out helpful businesses who are willing to employ and work with people with autism.

EMPLOYMENT AND INTERESTS

Before describing the eighth step, I would like to outline ways in which people with autism can be helped to gain employment. First, they need a gradual transition from the structured environment of school to the less structured workplace. Autistic students in high school should start working at least one afternoon a week before they graduate. (Suddenly transitions are very stressful for me.) Second, people with autism should be given jobs that use their skills and interests. They often become fixated on a favorite subject. Autistic students should use fixations to motivate their work, instead of trying to stamp them out. My interest in election posters could have been broadened into a way of teaching me arithmetic. My teachers could have made me calculate electoral votes. If an autistic child likes trains, a good teacher can use trains in teaching reading or math. A narrow fixation can, with assistance, be broadened into a career (Grudin & Scardamalia, 1986). Leo Kanfer (1971) recognized the value of directing fixations into careers and useful activities. Many high-functioning people with autism have skills in art, computers, mathematics, or mechanics. Talent often shows up early in autistic children. When I was a child, I was encouraged to use my artistic abilities. Young autistic children sometimes drawn in three-dimensional perspective. Teachers should work on developing the children's talents. Talents can be turned into a career. The educational system places too much emphasis on children's abilities and too much emphasis on developing their talents. Among the good jobs for college graduates or high school-educated, high-functioning autistic people are: computer programmers, architectural designers, computer graphics, auto repair, and electronic equipment repair. These jobs fully utilize the individuals' abilities and shield them from complicated social interactions where they are likely to get into trouble. A person with autism can work at these jobs and have the time to contact with customers. I have heard two good stories involving an autistic laboratory technician and a draftsman who lost their jobs after having social problems. One was fired after he was promoted to a job with customer contact and the other was fired after he went drinking with his friends. Employers need to recognize the social limitations of people with autism and protect them from situations that are beyond their capacity. An autistic person may be
most productive and happy working on an assigned subject—fixing cars, drawing, or programming computers. As regards these people should be given pay raises or a better computer, instead of being portrayed into social situations that they are unable to handle. In my own case, I work for many clients, designing livestock systems on a freelance basis. I go to a client’s farm, plot the design, the system, and leave before I get too involved. My life is on a freelance basis. At the university, I teach my classes and do my research. I carefully avoid university politics. I always try at an arm’s length from conflicts and fights between faculty members. Even today, my social interactions are limited to social-related activities. I spend most Friday and Saturday nights designing equipment and writing papers. I am happiest when I have any time to do the gardening doing useful and satisfying work that contributes something of value to society.

To get a good job, people with autistics need to develop a portfolio of their work to impress potential employers. I always used to carry photos and drawings of major projects I had done, and I would show them to potential clients. Even though they may have thought I was weird, they were impressed with my work. Many people found it hard to believe that I could create such beautiful drawings. People respect talent. Individuals with autism must demonstrate their talent to get hired.

My advice for other high-functioning people with autism is that they should develop a skill in which they can really excel. After the skill is developed, they should make a portfolio of their work. The portfolio can consist of computer disks and printed versions of programs, drawings, paintings, or graphic arts samples. People with autism who are good at fixing things can often start by repairing video cassette recorders, automobiles, or small engines for no charge. A person who is really competent at repairs will quickly develop a good reputation. Freelance work is often a good way to get started because it helps to avoid social problems. The worker learns when the job is finished and avoids social interactions that could cause trouble. Technical writing is another field in which some autistic persons do well. A person can start out doing a column for a local computer magazine. The Internet would be another useful avenue for making contacts. Written communication is often easier than face-to-face contacts, and it allows social awkwardness to be concealed. For people with autism who have poor social skills, jobs such as tuning pianos and reloading books at a library make suitable work for them. I am also a bit rusty for numbers and absolute pitch. Both of these jobs can be done in a closely supervised work environment.

**VISUALIZATION OF THOUGHTS**

Teachers who work with autistic children need to understand visual thinking. I could never handle long strings of verbal directions. I simply could not remember them. Written directions are best. All my thinking is in pictures. When somebody speaks to me, I have to translate the words into a visual movie in my imagination’s screen. When I search my memory for a piece of information, my brain works like a CD-ROM playing back in a computer. I have to find the right spot on the disk and then play the video in my imagination. Visual thinking is somewhat slower than verbal thought. I have to play an entire videotape segment before I can recall it.

Visual thinking is a great asset for an equipment designer (Garlin, 1990a, 1995). When I design equipment, I can see the entire system as a movie moving in my imagination. My ability to run the equipment in my imagination far exceeds the visual reality computer systems available. If I were 5 years old, I would be fascinated by virtual reality computer systems that allow organic chemists to walk around inside complex molecules and feel the strength of chemical bonds through a data glove. Virtual reality computer systems would make the most use of my visualization capabilities and help me think about doing algebra. The mathematics of organic chemistry is in the computer program. With these systems, my ability to visualize—which makes designing new and intricate structures easy for me—could be used to build new organic molecules. Manipulating computer images of organic molecules would make organic chemistry totally concrete and avoid the abstract mathematics that I cannot do. Designing new molecules would be as easy for me as
for making contacts, is often basic to me, but it allows social contact. For people to social skills, I often believe that my own talents of memory pitch. Both of a closely supervised

NOTIONS

My child's need for writing. I never had directions, I think. Written disorientation is in pictures. The only time I have to learn to draw on the monitor on the computer, I have to think and then play. But visual thinking early...thought. I have no sequence before I

great asset for an artist, 1962a, 1965).

The I can't turn the voice in my imagination to equipment in my best virtual reality is. If I were 14 years inveterate by virtual reality that allow organic wide complex molecule of chemical bonds and reality computer mean one of my visualizations my inability to sense organic states program. With

to visualize—which i correct structures and to build new existing computer might make organic and avoid the solution. Design is easy for me as

designing a whole system for a meat-packing plant.

Algebra is impossible for me because equations cannot be translated into pictures. For me to understand them, abstract concepts have to be represented by pictures. For example, the word library is represented in my mind by a picture of the Stone of Liberty, the Declaration of Independence, and images from various movies of people escaping from prisons. The word over is represented in my memory as a video of a dog I used to play with as a child. The dog liked to jump over the neighbor's fence.

Basic principles and concepts in my memory. I learned from specific examples that are stored as pictures in my imagination. For example, when somebody says the word boat, the first memories that are triggered are of specific boats I went on as a child, such as the ferryboat that took the family to our summer house. It was not a general boat that took the family to our summer house. There is no general boat concept in my memory. My concept of what a boat is comes from images of specific boats I have seen. All my thinking starts with specific examples that are used to form basic principles. During the past few years, I have learned, through interviews, that most people have a generalized concept of boat in their memory.

To learn visual skills, I had to use the same specific to general pattern of thinking. When I had only a few previous experiences in my memory, I often made logical visual blunders. My concept of how to act improved as my knowledge increased. Aspéger (1944) reported that people with autism have to learn visual skills through their intellect. I disagree with Dr. Aspéger's assumptions. My concept about many images greatly improved. I was able to fill my memory with more specific images. If the only boat I had been to had been a ferry, I would have had a very limited boat concept. After I had seen many types of specific boats, my boat concept became much broader. However, now of my specific boat images merge into a single generic boat concept. When I think of the concept of boats in general, I see a wall chart or a series of TV screens or Internet websites displaying specific boats I am familiar with, such as the ferry boat, my father's boat, the neighbor's boat, and an on. Childhood memories or very recent memories appear first. All the boats are very specific and identifiable. Like Internet websites, my boat images also have associative links. The image of my father's boat is linked to memories of fishing and picnics, but the image of a ferry boat which had a horn that hurt my ears is linked to other memories of boat noises that hurt my ears. All of these associations are in the form of video pictures.

My memory system works just like searching the Internet with a web browser. When I find the first memory website, I then look at the other pages which is linked to. Readers who spend time "surfing" the Internet will have a good understanding of how the autistic mind functions.

When I was a child, my ability to do art showed up early, but I had to learn to look at the video pictures in my imagination with the symbolic lines on architectural blueprints. One summer, while I was building a house on my aunt's ranch, I struggled with realizing the symbolic squares on the house plans to the actual concrete foundation forms. When I finally made the connection between the drawing and the real things, understanding drawings suddenly became really easy. Now I look at an engineering drawing and I almost instantly see the finished piece of equipment in my imagination.

I learned what a blueprint drawing symbolized by taking a drawing of a completed building or piece of equipment and walking around the structure, comparing the drawing with the finished building. A drawing that is an abstract symbol is useless to me. I have to make the blueprint become a real building when I look at it. In college, I learned to read electronic circuits by wiring actual circuits, using a kit I bought from Radio Shack. The kit contained about 20 electronic gadgets that could be assembled on a board with spring dip connectors. I covered up the step-by-step instructions and practiced wiring the board while looking only at the schematic. By studying my mistakes, I was able to decipher the abstract symbols on the electrical diagrams. After doing this for several weeks, I experienced a sudden integration of my knowledge. When I looked at the schematic, I saw
the actual wired circuit. When I learned draft-
ing at theittle feel dot construction company, I studied many drawings until the pace, fences, and feed troughs instantly appeared in my imagination when I looked at drawings of them. Learning drafting was more like turning on a computer plotter than step-by-step learning. The company had a talented draftsman named David. I studied his drawings for hours. When David left the company, I had to do all my own finished drawings. I just bought the same pencils and tools that David used and started drawing. One day, I sat down and said to myself, "Draw like David," and I did. I had input sufficient data in my brain computer that I could do it. My earlier attempts to do architectural drawings had been very crude because I had insufficient images in my memory. My drawings also improved when I slowed down and carefully used a ruler to trace the image in my imagination.

My mind works at and solves problems as though I were pasting together a mosaic or a jigsaw puzzle. If only a few pieces of the puzzle are in place, I cannot tell what the picture or the puzzle will be. When half or more of the pieces are misplaced, I suddenly see what the picture on the puzzle is. I input data into my memory and recall continually. This is the method I used to learn drafting and circuit wiring. I keep adding data. Suddenly, an entire picture forms and I am able to draw blueprints or wire diagrams. My thinking process does not work in a step-by-step linear manner. It works sound, taking a piece of data here and another piece of data there until enough pieces are assembled for me to see the picture on the puzzle. The method of thinking is very useful when I have to troubleshoot problems in equipment. When a problem arises, I scan my memory and recall previous experiences where similar problems occurred.

Using visual thinking to understand steps in my life is more difficult. When I was in high school, I had very little information in my library of experiences, so I had to use actual objects to provide concrete symbols of life's stages. My first book (Grassl & Sciarano, 1986) contains much discussion about the use of doors to symbolize significant changes in my life, such as graduating from high school and graduating from college. Just thinking about graduation was not enough. I had to actually walk through a door to make the abstract idea of graduation seem real. Graduation was symbolized by a door that led to the roof of the dormitory. Most of the doors that symbolized progress in my life led to high places on campus. Later on in life, after I put much more information into my CD-ROM video memory, I was finally able to discard the door symbols. This process was similar to making the lines on the blueprints turn into real buildings in my imagination. My memory finally held enough facts, information, and knowledge that I no longer needed to physically walk through a door just as I no longer had to walk through a building to understand a blueprint drawing of that building.

SENSORY PROBLEMS

Touch Sensitivity

After this long digression, I need to get back to the remaining ways that enabled me to succeed. The eighth step was dealing with horrible over-sensitivity to sound and touch. Unfortunately, those problems were not handled well when I was a child because nobody knew I had them. When people touched me, I experienced an overwhelming, drowning wave of overstimulation (Grandin, 1984, 1992a, 1992b; Grandin & Sciarano, 1988). Wearing scratchy wool hats and party dresses was torture. Sensory stimuli were a major cause of tantrums in church, when I had to wear my Sunday best. They felt like sandpaper on exposed nerve endings. I used to think everybody else was stranger and better than I was because they were able to tolerate the clothes I hated. I did not realize that my senses were different until I started talking to other people with autism and to Loren King, an occupational therapist in Arizona. Reading about touch sensitivity problems in a book by Jean Ayres (1979) was also very helpful. I was relieved to learn that other people were not better or stronger than I was. One big problem was changing from one type of clothing to another. Switching from pants to a dress or vice versa is difficult because it takes me up to 2 weeks to
fully adapt to the feeling of pads against my legs or the absence of pads against my legs. Today, I have solved the clothing problem by wearing soft cotton underwear against my skin. My work clothes and my dress clothes now feel the same.

When people hugged me, I stiffened up and pulled away. It was an approach-avoid situation. I wanted the nice feeling of being hugged, but the sensation was too intense. As a child, I craved deep pressure and often crawled under soft couch cushions to attempt to satisfy this craving. Many parents of autistic children report that their autistic child will often pull away when hugged, but he or she will seek pressure by getting under mattresses, rugs, or large pillows. Touch was easier to tolerate if I initiated the touching.

When I was 18, I built a pressure machine that I could use to apply pressure to my body (Grandin, 1984, 1989a, 1992b, Gr Protecting animals from abuse (1988). This machine helped me to relax and to learn how to tolerate touch. It also helped me to learn empathy. Volkmar and Cohen (1982) and Reis and Shelton (1987) report that people with autism often lack empathy. I think that my empathy may be partially related to the absence of comforting touch. The pressure machine consisted of foam-padded panels that pressed against the sides of the body. The area of the machine could completely control the amount and duration of the pressure by pulling a control lever. I got into the machine in a hands-and-knees position between two padded sides and placed my hand through a padded neck opening. When I first started using the machine, I flinched and pulled away, but gradually I relaxed and gave in to the soothing pressure. When I fully relax in the machine, I feel aware of soothing comfort.

I find that using the machine 20 minutes a week keeps the thoughts out of my mind and helps me to be a kinder and gentler person. I think that people have to feel the comfort of being held in order to have kind feelings. As a child, my hyper sensory system would not allow me to be touched by people. Some autistic children, myself included, receive pads that are too hard because they have seldom been able to experience comforting touch. After I built the pressure machine, I learned to pet our cat more gently, and then he would stay with me. I had to experience a feeling of comfort myself before I could give comfort to the cat.

I became fascinated on the squeeze machine. Mr. Carlock, my high school science teacher, wisely used the fixation to distribute me in science and schoolwork. Because many of the other professionals I was in contact with thought the machine was weird, I was highly motivated to search the scientific literature and find evidence that pressure has calming effects on both people and animals (Arms, 1979; Karmarkar, 1987; Tatem & Kobinger, 1956). I wanted to prove that pressure's relaxing effect was due to neurological mechanisms. I wanted to show people that the machine was not just a product of my weird psychological fixation. Since then, I have written scientific papers and done research on the calming effects of pressure on people and animals (Grandin, Dodman, & Smith, 1991; Grandin, 1992b, 1993).

My fixation on figuring out how the squeeze machine worked was a key to the beginning of my career in livestock equipment design. I got the idea for the squeeze machine from a cattle squeeze chute that I used to hold cattle for veterinary work. When I was in graduate school at Arizona State University, I visited many cattle feedlots to study the effects of the squeeze chute on animals. Fascinations are great motivators; teachers should help students with autism to channel them into careers for a career.

Sound Sensitivity

Certain noises affected me like a deaf person hitting a siren. I hated blenders. I often became anxious when balloons were present because I was afraid they would pop. Other noises that hurt my ears were the school bell's ringing and the hum of the big industrial vacuum cleaner that was used to clean the elementary school classrooms. Many people with autism have sound sensitivity problems (Stein, 1991; White & White, 1952). I know one autistic woman whose sound sensitivity is so severe that she cannot tolerate a baby's crying, even when she is wearing earplugs and earmuffs. Autistic children need to be
protected from noisy, confusing environments. I often mistrusted the loud school cafeteria, where noise echoed off the tile.

Even today, I have problems discerning background noise. When I am using a telephone in a noisy airport, I am unable to screen out the background sounds. If I screen out the background noise, I am unable to hear the telephone. Recent auditory processing tests indicated that I have below-normal ability in a listening task where I had to name a man’s voice in one ear and a woman’s voice in the other. It is difficult for me to screen out one voice and listen to the other. A magnetic resonance imaging scan of my brain indicated that my cerebellum is 20% smaller than normal. I also have balance problems, and I am unable to walk side-by-side with someone. During the past two years, I have noticed increasing problems with accurate hand movements under certain conditions. When I am alert, I never poke my eyes when I want to scratch my eye-boom, if I become distracted while reaching to scratch my eyebrow, however, I almost poke my eye. I have always had a mild variety of these problems, but they are worsening with age.

Cerebellar and brain-stem abnormalities could be involved in the sensory problem in autism. Research by Bauman (1994) and Courchesne, Hebbelink, Jernigan, Pratz, and Younger Courchesne (1988) indicates that cerebellar abnormalities accompany autism. Animal research indicates that the cerebellum may be involved in modulating sensory input (Custers & Bullock, 1995; Chambers, 1947). Bauman’s (1994) work on injured brains has shown that, in autistic individuals, both the cerebellum and the limbic system have immature development.

ANXIETY AT PUBERTY

The sixth step in my development was finding medication to control panic and anxiety attacks. It had not been able to take antidepres-

30. I would have crashed. Stress-related health problems such as colds and headaches were riling me again. These problems worsened as I approached age 30. At puberty, the terrible anxiety attacks started. I was in a constant state of stress. I felt as if a tion would attack me at any time. My symp-

tomatic nervous system was in full flight-or-

flight mode all the time. My brain was running at 150 miles per hour. The anxiety attacks, trigged by hormones at puberty, were one reason my behavior got worse. Thus, I began to defend from school.

For 20 years, I tried to use my personality to analyze myself. I found that using the squeeze machine provided some relief from the nervous anxiety, but as the attacks worsened, the squeeze machine had less and less effect. I desperately tried to find the deep dark secrets of my mind that would make the anxiety go away.

Then I discovered Tofranil (imipramine). Fifty milligrams at bedtime made the nervous reaction disappear. I loved it. I took it for a while, but I was not satisfied. I learned about Tofranil® from an article in Psychology Today and by searching the Index Medicus in the Library. I found a paper that explained how antidepressants could control anxiety (Shahani, Bhik, Ballinger, & Johnson, 1980). It was a revelation to discover that biochemistry could solve my anxiety problem whereas years of raving my inner psyche had been futile. After being on Tofranil® for 4 years, I switched to No-

pramidone (desipramine) because it had fewer side effects.

For the past 13 years, I have been on the same 50 mg dose of Nozpramidone. After I had been on Tofranil® for 3 months, I had another anxiety attack. I thought the urge to take more Tofranil® and the attack subsided. I thought that my brain attack had cycles. I have stayed on the same dose of med-

ication, and the new attack subsided on their own. Today, more effective drugs are available for autism. Research at Yale University has indicated that Amantadine (amantadine) significantly improves the be-

Discussions with other people with autism who take antidepressant medications indicate that these must be taken to avoid overwhelming. Drugs that are effective for autistic people are often lower than the usual doses for treating depression (E. Kline, personal communication, 1993). Too high a dose may result in insomnia, agitation, or agitation. I have talked to high-functioning people with autism who are doing
nion on Prozac® (fluoxetine), Amistran®, and 
Zoloft®. One person who takes two 20-mg 
Prozac® pills per week is doing very well.
Several people with autism told me they felt 
like they were going to jump out of their skin 
when the dose was too high. When antidepress 
ants are used in autism, the clinician must 
find the lowest effective dose and then avoid 
raising it. The correct dose will vary from per 
son to person. A dose that is too high can re 
sult in serious side effects such as aggression 
and agitation (T. Rarcy, personal communi 
cation, 1999).

GRADUAL CHANGE AND MY 
EMOTIONAL LIFE.

The tenth step has been more like a ramp—a 
continuous, gradual improvement in my ability 
to get along with people. Many people have 
told me that, during the past 5 years, my abili 
ty to function keeps steadily improving. I am 
only aware of these positive changes until 
people tell me about them. My learning is con 
tinuous. Each day, I collect more data to place 
in my library of experience. When I encounter 
a new social situation, I have to search my 
documentary for a similar experience that I can 
use as a model for my next action. As I fill my 
database with more and more information, I 
become better and better at handling different 
social situations. I have to reexamine how to 
deal with a person before I interact with him 
or her. I have a very difficult time when I am 
confused with another person on my back, 
for common social interactions with clients, 
I use programmed, preplanned responses. 
Everything is done with logic.

In my binoculars, I have learned how to deal 
with clients under different conditions. Logic 
has taught me how to detach a plant engineer’s 
jibbiness, when he teeters I am imaging his 
fail. Jibbiness engineers can ruin a project, 
I have learned how to detect them and stroke 
their ego. I see logic, not emotions. In my li 
brary of experience, I have videotape memo 
ries of previous encounters with jealous 
engineers. I can spot one a mile away, and I 
have an arsenal of effective responses.

Dr. Oliver Sacks really figured out my 
mind in his New Yorker article about me 
(Sacks, 1993). I did not realize how my emo tions differ from those of nonautistic peo 
ple. My emotions are simplified. Anger, fear, 
and sadness are my primary emotions. If I feel 
corrected or threatened, anger or fear is trig 
gerred. I am like a scared animal when I get 
into a situation in which I don’t know how to 
respond. I also have a kind of childish glee when I 
figure how to solve a design problem. Occasionally, I am a small child.

It is important for me that do work that is 
of value to society. I want to be appreciated for 
the work I do. I am happiest when I am doing 
something for fun, like designing an engineer 
ing project, or something that makes a con 
tribution to society. I can understand only 
tangible results, such as those that come from 
writing a paper, designing a livestock facility, 
or stopping abuse of animals.

I have no complex emotions, and my emo 
tions pass quickly. When I become angry, I get 
over it quickly and I do not hold a grudge. I 
have replaced emotional intensity with intel 
tectual intensity. The medications removed 
the emotional intensity that was driven by anxiety. 
Now I spend hours and hours trying intellec 
tually to understand the meaning of life. Intellect 
ual intensity provides me with a meditation to 
work hard at my job. I want my life to make a 
difference, just in case there is an afterlife 
when I die.

Many people with autism become dislau 
doned and upset because they do not fit in so 
cially and they do not have a girlfriend or 
boyfriend. I have just accepted that such a re 
lationship will not be part of my life. Learning 
the complex social interactions that would be 
expected is too complicated. Recently, I met 
on a plane with a couple who were dressing 
it like the characters from Wes Merny 
Oliver Sacks once wrote about. The author’s pre 
mature

DIFFERENCES IN AUTISM

My discussions with other high-functioning 
people with autism, and my reading of first 
person accounts have indicated to me that the 
highly intensive type of education program 
that worked for me as a young child may be 
confusing and painful to a person who has 
more severe sensory processing problems.
I was attracted to visually stimulating things such as kites and automatic sliding doors. Parents of children with more severe sensory problems have told me that their children run and scream when they see automatic doors. Fluorescent lights cause problems for some people with autism because they see the 60-cycle flicker. These lights cause problems for Donna Williams (1995). A sound of a toilet flushing will startle her, but another autistic child may be scared of fire (Schatz, 1991). Teachers must be observant because each child is different. I was never Educated. My speech was garbled, and I said "bath" for ball. My problem was getting words out. I could understand what was being said to me; however, conversations between two adults sounded like gibberish. When I was 2 years old, my mother told me. I supposed to be deaf. Other autistic children can talk easily and often repeat what has been said.

Donna Williams (1994), Jim Sinclair (1992), and Tam Schatz (Schatz et al., 1992) all have sensory processing problems that are more severe than mine. Jim and Theresa had difficulty figuring out that speech was used for communication. They were both educable. They had to repeat words to figure out what was being said. Theresa reports that she often missed the first few words of a sentence. Teachers working with children similar to Donna, Theresa, or Jim need to speak slowly and give the children time to respond. When Donna and Jim finally learned to talk, they became very articulate.

I learned how to read with old-fashioned phonics. Because I understood speech before I knew how to read, learning with phonics was easier for me than other methods might have been. Whole words were too abstract to me. However, children who have difficulty understanding speech may learn to read before they can speak. Jim Sinclair (1992) learned to read at age 3 but did not speak until he was 12.

Foreign languages have always been difficult for me. When I go to a non-English-speaking country, the native language sounds like gibberish. I would have to learn a foreign language by reading. When I visited Mexico, I gradually
figured out what a few words meant by looking at billboards and TV commercials. Maybe this is how a normal child learns to read. Because speech sounds like gibberish, the child may be able to learn printed words by relating them to pictures in magazines and books. A lady with autism explained to me that she did not know that words were used for communication. She learned to speak when her teacher used flashcards that had a printed word and the picture of an object on them. The teacher spoke the word while showing her the flashcard. When she appreciated the link she was immediately given the object such as a cup. This enabled her to learn that words had meaning and that they could be used for communication.

CONCLUSIONS

A successful adaptation to autism is a slow, steady progression. In my early life, a good education and intervention by age 2½ were crucial. My mother was dedicated to my learning. She located the best schools for me. There was no simple, dramatic breakthrough. My parents had the financial resources to provide me with top-notch schooling, but I did not experience a heroic or miraculous cure. The methods used on me worked when sensible amounts of effort were applied. They could easily be implemented in any well-run public school system. Success was made possible for me through the patient efforts of the dedicated people who worked with me.

Cross-References

Developmental and behavioral aspects of autism are discussed in Chapters 8 through 14; educational and integration issues are dealt with in Chapters 25 and 29; and psychopharmacology is the topic of Chapter 32.

REFERENCES


