

THINKING IN PICTURES AND OTHER REPORTS FROM MY LIFE WITH AUTISM; EXPANDED EDITION INCLUDING THE MOST RECENT RESEARCH, THERAPY, AND RESOURCES.

Authored by Temple Grandin, New York,
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I was seemingly excited for getting the opportunity of reading and reviewing (Thanks to the Editor of the *Anwesa* who compelled me to do this job though initially I was reluctant to do so.) Dr. Temple Grandin's book: *Thinking in Pictures and Other Reports from My Life with Autism* (2006). This book, to put it in a nutshell, provides readers with a comprehensive and contemporary coverage of issues related to autism and autism spectrum disorder (ASD). She writes the book from the dual perspectives of a scientist and an autistic person. Common readers as well as experts, especially those who are interested in neurodiversity and ASD can equally derive pleasure in reading the book.

It is her second autobiographical book after *Emergence: Labelled Autistic* (1986). Dr. Grandin, a high-functioning autistic and a gifted professor in Animal Sciences at Colorado State University, was profiled by Oliver Sacks, a noted neurologist, in his recent book, *An Anthropologist on Mars* (1995). Besides a plethora of recent researches on neurodiversity and autism, Grandin's book offers a series of original essays on her life, professional works and religious belief.

Dr. Grandin (1947-) is a gifted animal scientist who focuses on the humane treatment of animals and livestock-handling facilities. She is an autistic (neurodiverse/neurodivergent) woman and she declares that she thinks in pictures and videos unlike most of neurotypical people, which has benefitted her immensely

in her profession. Her book gives the readers a rare opportunity to look inside her brain - which is supposed to be wired differently like other neurodivergents - as she shares accounts from her childhood, how she would play or scream, swing or rock alone, endlessly disconnected from others, her first beginning of speech, her total failure to understand or be understood by other children in her school, her desire for, but fear of contact, her bizarre daydreams, her profession, and her curiosity in neurodiversity, especially ASD.

At the outset, it might seem almost impossible for most of us to believe that an autistic woman has written an autobiography. Proving us wrong, Grandin has made it palpably possible. In her memoir she explains how, like other autistic people, she identifies herself with Star Trek's (a popular TV show) irrepressibly logical and unemotional Mr. Spock. Like Spock, she has not felt the aesthetic joy of a sunrise or sunset or of love and human bondage. Yet she feels keenly the anguish and suffering of animals. She describes a difficult childhood during which her worried mother struggled to communicate with her. Despite her communication problems, Grandin attended ordinary schools and had entered college before she realized that autism made her emotions different in kind from those of non-autistic people. Her emotions are more childlike, she admits, and they are dominated mostly by fear.

These feelings, she strongly believes, are close to the emotions of nonhuman animals. Her ability to put herself in an animal's place—to sense its elemental fear and learn how to soothe it—has helped her succeed as an animal scientist at Colorado State University. She has become quite famous for designing animal feed yards and humane slaughterhouse procedures, which have been adopted by no less than one third of all livestock facilities in the U.S.A. In addition to animal sciences, Grandin has studied the available data on brain development and immediately she realized how not only her emotions, but her thought processes differ from those of other people. She thinks in vivid three-dimensional pictures, which seem to run on a tape that she can fast forward and rewind at will.

On the whole, the book has eleven chapters and I think the first five chapters are particularly interesting for the general readers. Some later chapters may seem interesting to those who are passionate about animal sciences.

The book begins with a Note from the Author where she states her purpose of writing the extended version of the book (first published in 1995) and refers to subsequent additions of information regarding autism and visual thinking with most recent researches and their results. Thereafter comes a beautiful Foreword by Oliver Sacks written in consonance with empathetic attitude towards a neurodivergent writer. According to him, along with Grandin's first book, *Emergence: Labelled Autistic*, this book is a unique and unprecedented one because 'there had never before been an "inside narrative" of autism' (p.xiii). It is extraordinary because "Temple

Grandin's voice came from a place which had never had a voice, never been granted real existence, before – and she spoke not only for herself, but for thousands of other, often highly gifted, autistic adults in our midst" (p.xiii). Through this book Grandin introspects into her own nature which she feels is quintessentially concrete and visual (with the great strengths, and the weaknesses, which may go with this). Thinking in pictures represents a mode of perception, of feeling and thought and being. Grandin does not romanticise autism, nor does she criticise autism by saying her autism has cut her off from the social life, the pleasures, the rewards, the recognitions, the companionship which define life for most of the neurotypicals. On the contrary, she has a very strong and positive sense of her own being and worth, and how autism, paradoxically though, may have contributed to this fullness and ripeness of life.

The First Chapter of this book is deeply moving and extraordinarily fascinating to read because it provides a bridge between our world and hers, and allows us to have a glimpse into a quite other sort of mind. Taking cues from Francis Galton's *Inquiries into Human Faculty and Development* (1883), Grandin shares how most people believe that all people think in the same way, which is, of course, not true. Eventually, she learned that there are three ways of thinking, which could be the first step to better understanding those around us. These thinking ways are:

- i) Some people are completely verbal and think only in words;
- ii) Some people (especially autistic people) think in vividly detailed pictures;
- iii) Most others think in a combination of words and vague, generalized pictures; (Chapter-1, p.11)

In the Update section of First Chapter, she uses the terms such as i) Visual thinkers, ii) Music and Math thinkers, iii) Verbal logic thinkers (p.28-29). Throughout this book she explores the different variations in thinking and how the differences can lead to great innovation or satisfaction in a particular field. It is from the first chapter we come to know the cognitive features of autistic persons mentioned by Grandin such as: They [autistic persons] excel at visual spatial skills (p.3); they have highly associational thought patterns (p.9); autistics have problems in learning things that cannot be thought about in pictures (p.13); my thinking pattern always starts with specifics and works toward generalization in an associational and nonsequential way (p.16); people with autism have tremendous difficulty with change (p.18); they cannot handle any deviation from their routine (p.24); people with autism sometimes have body boundary problems (p.25); all individuals on the autism/Asperger spectrum have difficulties with forming concepts (p.29), etc. which are important to know for parents and mentors of neurodivergent children while handling them in the family or in school.

The Second Chapter deals with diagnosis of autism and its position in the spectrum. Following DSM-IV of American Psychiatric Association (1994), she has mentioned the diagnostic categories of ASD as: autism, pervasive developmental

disorder (PDD), Asperger syndrome, and disintegrative disorder (now the current and latest version is DSM-V-TR of 2022 and there are some obvious changes in related terminology). There is much controversy among professionals about them; some believe them to be separate entity while others believe them to lie on an autistic continuum between them (p.36). In this context she cites the names of some syndromes, which are often not known to general readers, such as Kanner's syndrome, Asperger's syndrome, Rhett's syndrome, Landau-Kleffner syndrome, etc. At the end she has also touched on genetic bases of autism and categorically she says:

- (i) There is no single autism gene, though most cases of autism have a strong genetic basis. If a person is autistic, his or her chances of having an autistic child are greatly increased. There is also a tendency for the siblings of autistic children to have a higher incidence of learning problems than other children (p.40).
- (ii) ... neither parent should be held responsible for an autistic child. Scientific studies and interviews with families indicate that both the father's and mother's side contribute genetically to autism (p.41).

The Update section of Chapter-2 is particularly important for parents having autistic children because it is here she discusses the probable causes of autism (i.e. genetic susceptibility, exposure to toxic agents, the timing during development, etc.) and early intervention or early education of autistic children in the form of Lovaas' method, Applied Behavioural Analysis (ABA), Dr. Koegel's method, etc.

Chapter-3 begins with a personal note of Dr. Grandin's own feelings and experience regarding her sensory problems like 'pressure stimulation' for which she made a machine called "the squeeze machine", and modified it several times later. In this chapter readers get a comprehensive idea of the autistics in the context of sensory stimulation and sensory problems like pressure stimulation (for which some autistics crawl under mattresses, wrap up in blankets or wedge themselves in tight places, etc.), sense of touch, severe body boundary problem, auditory problems leading others (i.e. neurotypicals) to believe that autistics, especially non-verbals, are deaf; they cannot rapidly shift their attention between a visual and an auditory task, they have difficulty with noisy gatherings of people, they do not pay attention to spoken language, they have severe visual processing problems, they have problems in making eye-contact, fluorescent lighting causes severe problems for many autistic people, and many autistic children are finicky and eat only certain foods. They are unable to tolerate the texture, smell, taste, or sound of the food in their mouth.

In the Updating section, she refers to recent researches on the area of sensory problem and suggests several approaches to teaching or educating the autistics, such as: auditory training, use of echolalia for teaching reading, use of touch for letter recognition, and several others.

The next chapter (**Chapter-4**) deals with another important topic: relationship between emotion and autism and in this comparatively small chapter Grandin recalls the problems she faced with others for her emotion which is different from neurotypicals. She begins by saying, “To have feelings of gentleness, one must experience gentle bodily comfort. As my nervous system learned to tolerate the soothing pressure from my squeeze machine, I discovered that the comforting feeling made me a kinder and gentle person” (p.84). She refers to the old and rejected theory of autism, popular till the 1970s, that placed the blame on the “refrigerator mother”, whose supposed rejection of the child caused autism. Then she adds: “We now know that autism is caused by neurological abnormalities that shut the child off from normal touching and hugging”. She also describes autistic emotions, especially her personal ones which may help us relate with the emotional behaviour of other autistic people. To give a few example: Teasing from other kids was very painful, and I responded with anger (p.90), Any change in my school schedule caused intense anxiety and fear of a panic attack (p.90), My emotions are simpler than those of most people. I don’t know what complex emotion in a human relationship is (p.91), At a conference a man with autism told me that he feels only three emotions – fear, sadness, and anger. He has no joy. He also has problems with the intensity of emotions, which both fluctuate and get mixed up, similar to sensory jumbling (p.93), The work I do is emotionally difficult for many people, and I am often asked how I can care about animals and be involved in slaughtering them. Perhaps because I am less emotional than other people, it is easier to face the idea of death (p.94).

In the Update section, Grandin takes up the issue of empathy of the autistic people. In general, autistics are very empathetic. From recent researches of Simon Baron-Cohen of Cambridge University we come to know about two emotional brain types – empathizers or systematizers. Empathizers are people who relate to other people through their emotions. Systematizers are people who are more interested in things than people. People with autism tend to be systematizers and Grandin scored high on Baron-Cohen’s test for being a systematizer.

Chapter-5 delineates Grandin’s education right from the nursery to the university level leading to her profession. Initially she faced hardship which culminated at the high school level. In schools she did not get much help from psychologists and psychiatrists because they were too busy to psychoanalyze her and find her dark psychological problems. The high school psychologist tried to stamp out her fixations on things like doors instead of trying to understand them to stimulate learning. It was Mr. Carlock, her science teacher and mentor, who used her fixations to stimulate her learning science. Teachers need to help autistic children develop their talents. But sadly, there is emphasis on ‘deficit’ rather than ‘developing skills’ and ‘abilities’. Autistic people need to build on their strengths and use their interests

for their education. In this context Grandin mentions the fields where autistics excel in, for example, computer programming, engine repairing, graphic art, drafting, cartooning, etc. In the Update section she opines that multitasking is a problem for autistics but high-functionals can perform well in multitasking activities.

Most of the readers might find **Chapter-6** uninteresting as she addresses a controversial topic, i.e. medication of autistics. During adolescence, Grandin started facing stress-related health problem due to her nervous breakdown and panic attack. Owing to her survival instinct she gradually turned on to biochemistry and began to use anti-depressant drugs to control anxiety and it had positive effect on her. She has no hesitation to admit that, after taking prescribed drugs by psychiatrists and doctors, her behaviour changed slowly, her eye contact had also improved (p.129). In the following pages she discusses some medicines and their generic names useful for autism, epileptic-like condition, self-abuse, neurolepticism, non-verbal adults, ADHD, along with her warnings on the diet and vitamin supplement and medication for autistics. Dr. Grandin's discussion with detailed information regarding diagnoses and various medicines and their side effects, paired with an abundance of researches is really incredible.

Social relationship, emotional attachment, conflict between logic and emotion, etc. are the central themes of **Chapter -7** and it is an important chapter to understand the problems of autistics related to social skills and social interactions. Grandin confesses that she identifies herself with Mr. Spock, a character of TV show Star Trek who places importance to logic instead of emotion unlike his other crewmen. Social interaction which comes most naturally to most people can be daunting for people with autism (p.153). All her life, Grandin watches things from outside and cannot participate in social interactions. Personal relationship is something Grandin does not really understand and she considers "physical intimacy" to be the biggest "sin of the system". That is why most autistics remain celibate or marry a person with similar disability (p.155). Autistics can learn business relationships by rote but dating is a difficult thing for them to handle properly. She gives many examples of autistics who face or confess their problems in figuring out what other people think in emotional situations. It is a surprising fact that autistics are very bad at "deception" because of the complex emotions involved in it. In the Update section Grandin picks up issues like development of social skills, shared interests, learning manners and social survival, social relatedness, emotional cues in the autistics.

From **Chapter -8 & 9** one can learn that Dr. Grandin's specialty is in handling of cattle, and her ability to think in pictures is what allowed her to be so successful in her career. She can place herself in what she calls the "cow's eye view," which is where she can picture herself as the cow working through a particular system. She

can literally picture how the cow will feel, what will make it calm, what will frighten it. Before Dr. Grandin, this was not a common thought; she completely changed the way people view cattle and livestock handling. There is a long discussion (**Chapter-9**) on the relation between sensation and autism, emotion and autism, relationships and autism, genius and autism, religion and autism which may seem strangely juxtaposed with her discussion on “connecting with animals” and “understanding animal thought” – but for Grandin, clearly, there is a continuum of experience extending from the animal to the spiritual, from the bovine to the divine.

She eloquently discusses the major topic of talent and genius in **Chapter-10** while always relating it back to autism. Grandin once met the second cousin of Albert Einstein and from her Grandin came to know about their family history. That cousin of Einstein had a musically talented child and an intellectually gifted child. Since then she talked with many families having autistic children and discovered that parents and relatives of them are often intellectually gifted (p. 204). From her subsequent studies she has found that mathematical giftedness reinforces the idea of abnormality and genius, that creative writers have mood disorders, that Einstein, van Gogh, and Bill Gates have mild autism. Mild autistic traits, she thinks, provide the single mindedness that gets things done (p.215).

Equally interesting and thought provoking is her chapter on autism and religion (**Chapter -11**). As an autistic woman she believes in God, Soul, and Heaven. For many people with autism, religion is an intellectual rather than emotional activity (p.223) but for Grandin it is “a means of attaining a certain kind of truth” (p.228). She has also given her thought to the question of immortality and life’s meaning. In this last chapter she has raised two questions: What happens after death (p.226)? What is really significant in life (p.227)? Readers might feel the intensity and urgency of Grandin’s mission of life when she says: “The possibility that a void exists after death has motivated me to work hard so I can make a difference – so that my thoughts and ideas will not die” (p.232).

At the end of the book, we get chapter-wise References and Selected Readings followed by Resource List which are very helpful to those who are actively engaged in research on ASD. Another features that add flavour to the book are its pictures & illustrations, attractive cover & its design and high quality of printing.

No doubt, *Thinking in Pictures* does an excellent job of explaining the science and psychology of autism; however, it ignores to mention the models of neurodiversity and disabilities. In disability studies there are many frameworks. The two most common are the Medical Model and the Social Model. The neurodiversity movement views neurodivergence as a disability only under the Social Model of disability though maximum people talk about autism from the point of view of medical model. This aspect has not been touched in this book. Grandin divides

autistic people into a binary category. Either they are socially awkward geniuses, or they are significantly disabled and nonspeaking. This view of Grandin appears dated and discriminatory towards nonspeaking and those with significant disabilities. Thus, there are certain issues with which readers may not agree with Grandin, yet I still highly recommend readers to go through the book. There is a wealth of information to be gained, especially about education of neurodivergents. Finally, to conclude, it can only be said that Dr. Temple Grandin may think in pictures, but she has also mastered, after strenuous efforts, the art of composing in words as it is evident in this highly readable account of her life which is stunningly different from that of us. Her prose may seem uneven and staggering, syntax may seem deviant at times, there may be some typos or grammatical errors here and there, yet it is worth reading because of its simple and engaging style.

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