

The Uncanny Abilities of Idiot Savants

by Donald K. Snyder

There are many strange things in this world and among the strangest are the people known as idiot savants. Idiot savants are subnormal in all mental abilities with the exception of one area in which they are extremely talented. In this one area the idiot savant can actually be said to be a genius, such as being a human calculating machine, having a photographic memory, being a concert-playing virtuoso, or inventing and designing machinery.

Most idiot savants are not idiots as defined in psychological terminology. Idiot is the lowest category on the mental scale and refers to those who may not be able to take care of themselves in any manner. Most idiot savants would be psychologically classified as either imbeciles (the next level in ability up from idiot) or as the less deficient moron who can function in society. Savant means wise in French and no idiot savant can truly be said to be wise. They seem to possess computer-like abilities which they personally understand not in the least. Percy, a "human calculator" with an IQ of 58, was asked by a learned professor just what his "method" was for making his amazing calculations. Percy stared dumbly, became uneasy, and then asked the professor, "What does it mean, method, doctor?" Percy had just finished calculating in eight seconds what day of the week fell on January 17, 1601!

The idiot savant most recently brought to public attention is Leslie Lemke of Pewaukee, Wisconsin. In December 1980 he was seen by millions of viewers on the national news playing piano and singing *The Impossible Dream* in a deep and moving voice. He is very good. He is also severely retarded, blind, and has cerebral palsy. Leslie is barely able to walk and must be led slowly to the piano where he is seemingly transformed into another person. He has given numerous concerts and can play or sing perfectly any song he hears only one time. He can play classical music, ballads, rock or jazz and leads his audiences from tears to wild cheers. He even sings in four different languages: English, German, Italian, and Chinese!

Despite his musical abilities Leslie is so severely retarded that he was unable to stand on his feet until he was thirteen and did not utter his first sounds until he was sixteen. Other than his music, at age twenty-six he has probably reached his peak mental development consisting of a total vocabulary of two words – a garbled "Yes" and "No." When he was an infant, an infection required the removal of both Leslie's eyes and caused him to be immersed into the world of sound as his only major stimulus. Leslie "discovered" his musical abilities one night when he was sixteen. His mother awakened to someone playing on the piano. She walked downstairs to discover Leslie playing Tchaikovsky's *Piano Concerto No. 1*. He played the piece from start to finish without a mistake and has been playing ever since.

Two retarded identical twins, George and Charles, became known as the "Human Calendars" during the 1960's and received much attention from the press and scientific world. George and Charles were inmates of Letchworth Village in New York and had measured IQ's in the 60 range. In a demonstration of their abilities, a psychiatrist asked them to add $2 + 2$. Several minutes passed and the brothers could not come up with the answer. The psychiatrist then asked the twins, "Perhaps you can tell us what months in the year 2002 will start on

Friday?" The brothers brightened up and instantly replied in unison, "March, February and November"! The brothers can perform this feat for any date that is asked. George, who is better at it than Charles, can calculate dates up to at least the year 7,000 A.D.



Retarded, blind and afflicted with cerebral palsy, Leslie Lemke plays all styles of piano music perfectly and sings in four languages.

When George was six, he discovered a perpetual calendar in an almanac and developed a tremendous fascination for it, staring at it for days on end. Although he could not read or write he somehow deciphered it and committed it to memory. It became a game at his house to ask him dates from the almanac. It is said that he never made a mistake. He became so good at it that his aunt, who worked as a clerk at the courthouse, would call him on the telephone to verify dates. Complete memorization of a perpetual calendar does not fully explain George's ability. There is no perpetual calendar published that goes beyond the year 2,400 A.D. and George can calculate far beyond this.

Like almost all idiot savants, George and Charles have no ability for abstraction. They cannot subtract simple figures but if they are told they are subtracting apples, then they can do at least minor calculations. It is unclear what function determines what they can and can't do. The twins can tell you that George Washington would be 249 years old if he were alive today, yet they can't solve the abstract equation $2 + 2$. It seems the logical part of their minds is singularly focused on only one area – calendar dates.

The most amazing of all musically talented idiot savants was Thomas Bethune. Bethune was a severely retarded and blind slave who grew up on the Bethune plantation in Georgia in the 1850's. When young he was utterly fascinated by any type of sound. He would listen to rain on the roof or even a corn grinder for hours at a time. He was especially fond of listening to Colonel Bethune's daughter play on the piano. Colonel Bethune first became aware of Tom's abilities one night when Tom was only four years old. He was awakened to someone playing the piano in his parlor and discovered young, blind Tom flawlessly playing a Mozart sonata. The Colonel began cultivating Tom's abilities, even hiring musicians to play for him. Tom could play perfectly any piece he heard only once. When Tom was only seven years old the Colonel took him on concert tour and was received by sell-out crowds. It is said the Colonel made over \$100,000 in his first year promoting Tom.

Tom was different from most idiot savants in that he seemed to possess a degree of creativity. He could improvise on a song once he heard it. If he heard a song once, he could repeat it, but he would also correct any mistakes made by the pianist. The Colonel kept a list of songs Tom committed to memory but the list soon reached 2,000 and he no longer bothered to keep count. Tom knew literally every piece of music available in that day, including Beethoven,

Mendelssohn, Bach, Chopin, Verdi, Rossini, Donizetti, Gounod, and Meyerbeer. It was estimated that he eventually developed a repertoire of 5,000 songs.

Tom had a perfect memory for any type of sound, yet he was so mentally deficient that he could only learn a few words with which to express himself. A newspaper account of him at the time read:

Blind Tom seated himself at last before the piano, a full half-yard distant, stretching out his arms full length, like an ape clawing his food; his feet when not on the pedals twisted incessantly; he answered some jokes of his master's with a loud Yha! Yha! ... The head fell further back, the claws began to work, and those of the composer's harmonies which you could have chosen as the purest exponents of passion began to float through the room. Selections from Weber, Beethoven and others whom I have forgotten followed. At the close of each piece, Tom, without waiting for the audience, would applaud himself violently, kicking, pounding his hands together, turning always to his master for the approving pat on the head.

Tom's most brilliant achievement probably occurred in Virginia in 1862. He had been playing for hours and was very tired when a man jumped on the stage waving the script of an original composition. He said that if Tom were truly a genius he could play a duet with him from his own unpublished manuscript. Since Tom could not read music it would be an almost impossible task. Colonel Bethune refused to have Tom submitted to such a test but upon insistence from the audience agreed to let him have a go of it. Tom was to play "secondo" to the composer's lead. Amazingly, Tom played his part perfectly even though he had never heard the music before. He became so enthralled that he shoved the composer from the bench and played both parts of the duet, playing the composer's part better than the composer himself! This was heralded as an act of creation and not just rote learning.



"Blind Tom" Bethune, the young slave who had a piano repertoire of 5,000 pieces.

Psychologists admit that there is no comprehensive theory to explain the abilities of the idiot savant. Limited theories seem to explain some, but not all, of the phenomena. Dr. Horowitz, head of the team of scientists that investigated the human calendar twins, George and Charles, states that there are at least three possible explanations:

1. Such individuals have an unusual capacity for vivid mental images (photographic memory).
2. The skill represents a mechanism for using memory and repetition as a substitute compensation for normal learning.
3. There is a specialized computer-like mechanism in the brains of these individuals.

A computer-like ability or sheer memorization does not explain the ability of some idiot savants such as Tom Bethune, or that of an imbecile named Gottfried Mind who lived in Switzerland in the eighteenth century. Gottfried was so physically deformed that children would run screaming from him, yet he had an uncanny ability to draw cats. He became known as "The Cat's Raphael" and even had a private showing of his works arranged by King George of England. Artistic and creative abilities are shown by idiot savants as well as the computer-like functions. It seems that their minds focus on something to the exclusion of all else, and this subject can be artistic or mechanical. No computer can draw cats or improvise music but a computer can calculate calendar dates.

How does the idiot savant focus so intensely on just one subject? Perhaps the "idiot genius" does not have a damaged mind internally, but in some manner his thinking brain (cerebrum) is completely isolated from the outside world with the exception of one single area or "window." If sensory channels in his brain are damaged with the exception of one area – sound for instance – then his mind would be totally occupied with sound and thus develop genius in this area. We devote our minds to a thousand different objects each day. It would be safe to say that if we were occupied with only one area, we would become a genius in it. This could be the case with the idiot savant. His thinking mind may be damaged in such a way that it can only "see" the outside world through one "window."

This theory would not apply to the idiot savant's entire brain, since he can function normally in some aspects. It could apply to a portion of his brain that is sealed off from the outside world except through the window of music or numbers. Many mentally normal persons also have certain super abilities like idiot savants. A portion of their brains could similarly be specialized. Charles Causer, a black lawyer from Knoxville, could instantly give squares of numbers in the millions and beat the best mechanical calculators of his day. Jedidiah Buxton of eighteenth century England could calculate the number of words in a church sermon just by listening to it. Buxton also once squared a 39-digit number in his head. A recent psychological study was performed on a mentally normal "lightning calculator" who can add a series of twelve 4-digit numbers in his head in five seconds. Super abilities are not limited to idiot savants but are potentials that the normal and retarded share alike.

A unique case of an idiot savant with great inventive genius is that of J.H. Pullen, who lived in an institution in England in the nineteenth century. Pullen was outwardly severely retarded and did not learn a single word until he was seven years old. He only learned a dozen or so intelligible words during his whole life. In the institution carpentry shop, however, he was able to make exquisitely designed tables, chairs, desks, picture frames and much else. When someone would come to look at his creations he would stand by, pat himself on the head, and say "Very clever"!

Pullen's greatest achievement was the design of a ten-foot model steamship which became known as the "Great Eastern." It was complete in every detail from ropes and pulleys to copper paddles, brass anchors, and miniscule furniture in all the cabins. The boards on the hull were fastened to the ribs of the ship by over a million tiny pegs. Pullen even invented a machine to make these pegs. Before building his ship he made detailed drawings of every aspect – a

remarkable feat considering that he could not read or write. The "Great Eastern" was shown at several exhibitions and almost always stole the show.

J.H. Pullen also had a devious turn to his nature. He once designed a complex mechanism to drop a guillotine over a doorway, with which he tried to chop a disliked orderly in half! When Pullen died at the old age of eighty-one, an autopsy was performed. His brain was found to resemble that of an ape more than a man's. Whatever caused his abilities couldn't be detected. No clue was discovered to explain his uncanny aptitude.

Despite many theories we simply do not know what causes the astounding abilities of the idiot savant. Brain processes are too complex for us to determine what thinking is, let alone the special type of thinking these idiot geniuses perform. We cannot, as yet, isolate it in any special convolutions or chemicals in the brain. The idiot savant seems to develop his ability almost instantaneously and doesn't improve much over the remainder of his life. Perhaps if we could learn some "trick" of concentration from idiot savants, we too could develop such abilities by an effort. It might be possible that a person could even create such an ability in several different areas. Until such a "trick" or mechanism is discovered, however, perhaps the best explanation is that given by the two Human Calendars. "It's in my head," said George. "I just know," says Charles.