# TREATING A CASE OF SAVANT SYNDROME

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## ABSTRACT

**Memory and artistic prodigies among the population at large are uncommon; among the mentally retarded, they are rarer still. This article describes the treatment of such a case, technically known as the Savant Syndrome, seen by occupational therapists at Mount Carmel Psychiatric Hospital and treated over a period of 18 years.**

***Keywords:*** *Autism, Occupational Therapy, Savant.*

## INTRODUCTION

Although a good memory is one of the factors in the complex of mental capacities that make up intelligence, phenomenal feats of memory are occasionally encountered in settings of mental retardation. A client with such skills was referred to the occupational therapy department for assessment and treatment, and his case was recorded and documented.

The feats of the Savant Syndrome involve rote memory, the capacity to retain and reproduce data verbatim, and are frequently accompanied by some creative ability. These skills are most commonly found in infantile autistic disorder. The diagnostic criteria listed by DSM-III-R [1] for this condition include qualitative impairment in reciprocal social interaction, like marked lack of awareness of the existence of feelings of others; dysfunction in seeking comfort in times of distress, in imitation and in social play; as well as gross impairment in the ability to make peer friendships. There is also qualitative impairment in verbal and non verbal communication, and in imaginative ability. The repertoire of activities and interests is significantly restricted and manifested by stereotyped body movements; persistent preoccupation with parts of objects; marked distress over changes in trivial aspects of the environment; unreasonable insistence on following routines in detail; and a markedly restricted range of interests as well as a preoccupation with one narrow interest.

Kaplan, Freedman and Sadock[2] opine that it is likely that the few gifted individuals with the Savant Syndrome are not really retarded persons but schizophrenics who are protecting themselves from human contact with a facade of pseudoidiocy. DSM-III-R, however, states that if the criteria for autistic disorder are met, the additional diagnosis of schizophrenia should only be made in the rare instances in which prominent delusions or hallucinations meeting the criteria of schizophrenia can be documented.

## THE SAVANT SYNDROME

Originally known as the idiot savant, this term was coined by a combination of the now obsolete but once accepted classification level of mental retardation, idiot, with the word savant, a knowledgeable person, derived from the French word savoir, meaning to know. It started being used a century ago to describe mentally handicapped persons in whom some conspicuous area of ability, skill or knowledge stood in marked contrast to an otherwise very limited intellectual capacity.

Today, the condition can be defined as a rare but remarkable state in which someone with a serious mental handicap, resulting either from developmental disability or from major mental illness, has spectacular aspects of mental capabilities standing in stark and marked incongruous comparison to the handicap. In the talented savants, the skills are remarkably simple in contrast to the handicap. In the prodigious savant, the abilities would be spectacular even if they occurred in a normal person [3].

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Among the listed skills to be found among the savants, one encounters mechanical ability; lightning calculation, mathematical ability; calendar calculating; artistic talent like painting and drawing; extraordinary mnemonic skills; and musical abilities. Prevalence of the syndrome has been reported at a rate of 0.06% or about one per two thousand in an institutionalised mentally retarded population [4]. The fact that more males than females are affected, in a ratio of six to one, indicates a sex linked disorder.

While no single theory can fit exactly to the Savant Syndrome, Treffert (1988) reports that explanations fall into some general categories. These include the possession of an eidetic or vivid photographic memory; inherited skills; concrete thinking and impaired ability for abstract thinking; compensation and reinforcement; and organic explanations like right / left brain localization.

## THE CASE OF MARK

The client was just fifteen years old when he was admitted to Mount Carmel Hospital in 1974. His developmental milestones had been marred in a number of areas by behavioural disturbances. His educational level was below par as his progress was greatly affected by the fact that he had been expelled from several schools owing to his troublesome, uncontrollable behaviour. At home, the family could not cope with the client; his behaviour ranged from the violent, like beating up his sisters, to the destructive, where he would throw and break things. The main socializing agencies - family, friends, play and school - so important for their contribution towards normal development, could not be significantly harnessed. Unable to cope any longer, the family sought hospitalization.

## TREATMENT

**Medical:** The client was diagnosed as mentally subnormal. He was prescribed major tranquillizers and anti-parkinsonian drugs, a regime which has changed little over the years. He responded well. At irregular intervals disturbed behaviour emerged, but these incidents became more isolated.

**Social:** The client attended regularly the sessions at the hospital Social Centre, where he was involved as much as possible in the social, leisure and recreational programmes.

**Educational:** For a period of time, the client attended a special class organized by a remedial teacher for mentally handicapped patients at the hospital. At times the teacher complained of his disruptive behaviour.

**Occupational Therapy:** In general, the therapeutic focus in the long term psychiatric treatment of a mentally subnormal client is on gross motor skills; fine motor skills; perceptual motor skills; activities of daily living; personal-social skills and communication [5]. Important aspects like neurodevelopmental sequencing, vocational exploration and habilitation are also taken into consideration [6].

Following referral to occupational therapy in 1974, the client was initially assessed, and subsequently evaluated at intervals, in order to determine his spheres of competence and those of dysfunction. In reviewing his occupational therapy programme over a period of fifteen years, five main treatment areas were identified where intervention was indicated:

*1. Creative Activities:*

For the first few years Mark joined an art group for young people twice a week. Art therapy offers an alternative non-verbal means of communication for those whose speech or understanding of words is incomplete or non existent [7]. The techniques also help to promote the self identity of the mentally handicapped, so easily lost in a large mental institution [8].

In this group his artistic ability was noticed and spotlighted. When given pencils, crayons, paint and paper he became a transformed person. Mark flourished in indirected and unstructured art techniques. A therapeutic rather than a pedagogic and instructional approach was adopted towards him, stressing the expressive self realizatory aspects of artistic expression rather than specifically developing visual and aesthetic skills. He gave vent to his underlying emotions through expressive, colourful drawings and paintings which represented both his real and his imaginative worlds. The projection of fantasy was essential, because where thinking is not established, the maintaining of fantasy takes the place of thinking, and for the mentally handicapped, fantasy may be the only tool to defend against severe frustration as well as to project the ego [9].

Mark's artistic output became regular, fluent and impressive. One of his paintings was selected from thousands of worldwide entries for

participation in the Thirteenth International Exhibition of Art by the Mentally Handicapped, held in London in 1975 by the National Society for Mentally Handicapped Children. Over the years, his attendance in occupational therapy increased, and he broadened his artistic dimensions by working with the medium of pottery. In 1989, a number of his works were prominent in the first Art Therapy Exhibition, mounted by the occupational therapy department at the National Museum of Archaeology in Valletta [10].

*2. Social Skills Training:*

Mentally handicapped people frequently stand out or fail to be accepted, because of their poor social skills. Often this is the result of impoverished early environments, family overprotection, general lack of opportunity or lack of correction of mistakes [11]. Mark's maladaptive behaviour included disruption, temper tantrums, aggression and damage to property. This was countered by behaviour therapy and modelling techniques. His temper tantrums and disruptive behaviour occasionally surfaced in the department, resulting in a smashed bottle of water or paint, and a general mess. He was requested to clean up afterwards, and the permission to attend therapy was withdrawn for a period congruent with the gravity of the incident. This technique proved successful, for the client really looked forward to the sessions; in recent years such behaviour has almost completely vanished. We have always tried to reconstruct as much as possible the environment so that it fitted in with his needs, for example his being in small groups; the provision of a quiet atmosphere; personal space; extended action area to enable him to indulge in expansive gross motor movements; constant availability of materials; and hanging up his work in prominent places in the art section as well as in the department.

*3. Memory Training:*

The client possessed amazing memory for exact details of events, dates as well as unusual mnemonic skills. He had lightening calculating abilities, especially for calendar estimations. Frequently short sessions of memory testing and training were held involving, for example, a series of questions on dates and days of past and coming events. Other members of the treatment team tested his memory at intervals. "This patient has incredible ability to give the weekday of any date, even years removed, with uncanny accuracy and speed", wrote his psychiatrist.

Praise and other positive rewards were given to reinforce his results. This satisfied and encouraged the client. From research[12] it has been postulated that the savant utilizes memory skills as compensation for his deficits or as a coping mechanism, and positive reinforcement of these abilities meets his need for self esteem, compensates for inferiority feelings, serves as a defence for intellectual deficits and provides a base for stimulation.

*4. Developmental Approaches:*

Some studies [13] have pointed to the possibility of the savant syndrome developing in response to social and sensory deprivation. Defective sensory input channels and social isolation lead to boredom, sensitizing the savant to minute changes in the environment and conducting to bizarre or trivial preoccupations, concentration or memorizing rituals [14]. Ayres [15] working with autistic children, and King[16] treating process schizophrenics, argued for the need of sensory integrative treatment in such cases through the appropriate stimulation of the vestibular, tactile and proprioceptive apparata.

A programme of activities was drafted for the client, involving gross motor techniques through physical exercises, sports and games. Unfortunately, he was reluctant to participate. Attempts were made a number of times to encourage him to take part, but his adamant attitude persisted.

*5. Vocational Skills:*

Towards his late adolescent years, efforts were made to train Mark in vocational skills with the aim of developing his occupational nature, giving him a structured routine in life and providing some sheltered and gainful employment. The industrial therapy section of the department was utilized for training, and a variety of skills including assembly, constructive and other manual components were tried. Mark started training programmes on several occasions, but each time the training had to be discontinued owing to his short concentration span and his low level of tolerance for repetitive activities.

## DISCUSSION

Between 1974 and 1989 Mark was discharged and admitted to the hospital a number of times, gradually moving from the Juvenile Ward to a

medium to long stay unit. He is now into his ninth admission as his family finds it increasingly difficult to cope with him, partly owing to their ages. Throughout this lengthy period, the occupational therapy department has provided him with a platform for his creativity. His eidetic capacity - for Mark was well endowed with a visual memory and could recall images with virtual hallucinatory intensity - was fully expressed in colourful and expansive scenes of childhood experiences, family events, public occasions, landmarks and so on.

Whereas creative techniques were successful with Mark, especially when combined with his memory abilities, the same cannot be said of some of the other treatment approaches. Regarding socialization skills, improvement was registered but interpersonal relationships did not show a significant amelioration. The social skills techniques while being effective in reducing negative behaviour within the hospital setting, could not be transplanted with a similar degree into the home environment, with the result that the family had to revert to readmission several times.

More could have been done in the area of memory training and displaying, especially through the tapping of information technology, for example pitting Mark's memory against games and programmes. Some of these skills could have been useful in vocational training, especially in industrial therapy tasks. The department, however, was not equipped with a computer section.

Another aspect in which Mark could have been assisted more was that of sexuality. Blurring and mixing-up in this area were demonstrated by several of his drawing which depicted scenes of bestiality and incest. Sexual counselling in the form of explanation, exploration and understanding could have been carried out.

Throughout this period, family support and liaison was a constant aim of occupational therapy. Programmes were explained, and the family was involved whenever possible. Great pride was expressed in the achievements of Mark when his work was selected for international exposure. Many family members accompanied him to attend the official inauguration of the art therapy exhibition in Malta.

## CULTURAL IMPLICATIONS

It should be pointed out that in Malta, the professional harnessing of art in the treatment of psychiatric clients is still in its infancy. There are no art therapists and the medium is utilized within the treatment milieu by some members of the multidisciplinary team, like doctors, psychologists and occupational therapists, who have had some training in this area.

Mark's involvement and output in the occupational therapy art sessions served not only for communication and self expression, but also gave vent to and reflected two important cultural features which are essential pillars of Maltese society: the family and religion. Many of his paintings depicted scenes of happy family outings to the seaside and countryside or special occasions like birthdays and other important social events. A special treat for the client while on leave was attendance at outdoor religious festivities commemorating the patron saint of local towns and villages. For six months of the year, there is hardly a weekend in Malta without one or two such feasts and Mark loved to be present at these colourful celebrations. Back at the hospital, his enthusiasm was not limited to verbal recall of these pleasurable events, but to illustrating them on paper as well. Thus, the art sessions provided an opportunity for the client to enhance his feelings of identifying with and belonging to his cultural environment.

## CONCLUSION

A review of occupational therapy treatment over a period of 18 years in a case of savant syndrome was documented, demonstrating satisfactory outcome through creative techniques, memory training and to a certain extent, in social skills training, and non productive results in neurodevelopmental approaches and vocational training.

With its variety of techniques, activities and materials, the occupational therapy department is an ideal setting for the treatment of the savant syndrome and offers many possibilities. The occupational therapist has a significant role to play in the treatment of the syndrome, especially in harnessing the capabilities of the client to the utmost, as well as carrying out remedial activities in areas of dysfunction. Early awareness and identification, prescription and intervention are indicated to maximise treatment results.

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