

## Autistic savant artists: a costly talent

Many autistic children have astounding artistic abilities, and autistic children as young as two or three have been known to draw highly sophisticated pictures. However, according to Allan Snyder and Mandy Thomas, this incredible skill comes at a high price.

Snyder and Thomas note that "it is... a surprising fact that normal individuals can-

In effect, Snyder and Thomas say, the non-autistic person's vision is "prejudiced" by internalized concepts—concepts that speed decision-making but make it difficult to accurately visualize the world.

not draw unless they are taught the tricks and schema to do so," or learn these tricks by trial and error. This inability, they theorize, "may well be the byproduct of strategies which have evolved to efficiently utilize a finite brain for rapid decision making, particularly... when the information is incomplete."

The researchers suggest that the normal brain has preexisting expectations about what is to be seen, and that these mental representations allow us to make quick judgments without actually analyzing everything in our environment. In effect, they say, our vision is "prejudiced" by internalized concepts about our world—concepts that speed decision making but hamper our ability to accurately visualize our surroundings.

Thus, the researcher say, nondisabled children draw schematic or symbolic representations, rather than natural drawings, of the objects they see. Conversely, they suggest, autistic children "observe the world without interpretation." To these children, Snyder and Thomas say, every detail they view is as important as every other detail.

"Consequently," the researchers say, "[autistic children] are sometimes capable of curious skills such as drawing naturalistically, but at the cost of being able to make rapid decisions."

It is interesting, Snyder and Thomas note, that no nondisabled preschooler has ever been known to draw accurate, naturalistic pictures. "Autism," they say, "is apparently a necessary condition for a preschool child to draw an accurate detail of natural scenes."

"Autistic artists give clues to cognition," Allan W. Snyder and Mandy Thomas; *Perception*, Vol. 26, 1997, pp. 93-96. Address: Allan Snyder or Mandy Thomas, Centre for the Mind, Australian National University, Canberra, ACT 2601, Australia.

### PEDIATRIC AUTISM RESEARCH ACT

Congress will soon vote on legislation to greatly increase funding for autism research to \$40 million per year. Write, call, fax, or email your Senators and Representatives to ask their support for SB 2263 and HR 4203. To obtain Congressional names and phone numbers, call 202-224-3121.

## Increased calcium intake reduces PMS symptoms

Many autistic females exhibit more aggression and self-injury premenstrually than at other times of the month. Treatments for PMS-related behavioral problems range from birth control pills to Prozac, but new research conducted on women in the general population suggests a simpler approach: extra calcium.

Susan Thys-Jacobs and colleagues, who studied more than 400 women for three months, report that PMS symptoms were reduced by 50 percent in women who took calcium (1200 mg per day). Their findings replicate several earlier studies conducted with smaller groups of subjects.

Thys-Jacobs et al. say that levels of calcium-regulating parathyroid hormone increase throughout the follicular phase and at midcycle in women with significant PMS symptoms, while parathyroid hormone levels remain stable throughout the month in

women without PMS symptoms. The researchers theorize that "if you are not consuming enough calcium, the regulating hormones increase and go berserk." Abnormal levels of parathyroid hormone in turn affect levels of the female hormones estrogen and progesterone, causing PMS symptoms.

Earlier research by Thys-Jacobs and colleagues also indicated that vitamin D supplementation, along with calcium supplementation, can alleviate PMS symptoms.

"Sparking PMS pains," Stacey Schultz, *U.S. News & World Report*, September 7, 1998

— and —

"Calcium-regulating hormones across the menstrual cycle: evidence of a secondary hyperparathyroidism in women with PMS," S. Thys-Jacobs and M. J. Alvir, *Journal of Clinical Endocrinology and Metabolism*, Vol. 80, No. 7, July 1995, pp. 2227-2232. Address not listed.

## Prism lenses improve behavior

Several researchers have reported improvements in the behavior or skills of autistic children wearing glasses with prism lenses (clear glass lenses slightly thicker at the top or bottom). A new study by Melvin Kaplan et al. adds to findings that the glasses can cause at least temporary improvement.

In a double-blind, crossover study, Kaplan, Stephen M. Edelson, and Jo-Anne Lydia Seip tested 18 subjects who wore either ambient prism lenses or plain glasses for three to four months. The researchers regularly evaluated participants' behavior, attention, and orientation skills.

"As predicted," they say, "there was a significant decrease in behavioral problems after wearing the lenses for two months." However, this was followed by a slight increase in behavior problems in the third and fourth months. The researchers note that most visual training programs involve both wearing glasses and undergoing vision exercises, and say that "if the participants in this study had been required to engage actively in training tasks, it is hypothesized that changes in behavior, orientation, and attention would have been more evident and would have continued...throughout the four-month duration of the study."

The researchers suggest that many autistic symptoms stem from an inability to attend to and process visual information from the environment. They note that a large number of autistic individuals exhibit visual problems such as strabismus, or odd behaviors related to vision (such as finger-flicking in front of the eyes). Many also use only their peripheral vision, which Kaplan speculates is "a way to avoid a mismatch between the right and left visual system which most likely fails to coordinate."

"Behavioral changes in autistic individuals as a result of wearing ambient transitional prism lenses," Melvin Kaplan, Stephen M. Edelson (see Editor's Note below), and Jo-Anne Lydia Seip; *Child Psychiatry and Human Development*, Vol. 29, Fall 1998, pp. 65-76. Address: Melvin Kaplan, Center for Visual Management, 150 White Plains Road, Suite 410, Tarrytown, NY 10591.

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Interview with Melvin Kaplan, website of the Center for the Study of Autism, <http://www.autism.org>.

Editor's Note: Edelson, Edelson, & Edelson

Sharp-eyed readers will note that this ARRI contains three Edelson-authored articles—

Page 1: Meredith Goldberg Edelson, Ph.D., is a professor at Willamette University in Salem, Oregon.

Page 2: Stephen B. Edelson, M.D., is a physician in Atlanta, Georgia, and is not, so far as known, related to the other two Edelsons.

Page 6: Stephen M. Edelson, Ph.D., the husband of Meredith, is the Director of the Center for the Study of Autism, in Salem.