magnetoencephalography. Ann Neurol Aug 1996;40:157-162). (Respond: Dr Salmelin, Low Temperature Laboratory, Helsinki University of Technology, Rakentajanaukio 2, 02150 Espoo, Finland).

COMMENT. An impaired perception of visual word processing of written words, resulting from dysfunction of auditory language areas in the left inferior temporoparietal area, appears to be a factor in the causation of dyslexia in some subjects. Early training in auditory language might help in the prevention of dyslexia.

Poeppel D and Rowley HA, Biomagnetic Imaging Laboratory, University of California, San Francisco, comment that the utility of magnetic source imaging (MSI) lies in the combination of MEG with the anatomic images supplied by MRI, providing anatomic location of activity at a given time-sampling point. MSI may be used clinically for presurgical mapping in evaluation of patients with epilepsy and determination of hemispheric dominance. The cost of MEG installations and MSI systems limits their practical use at present. (Magnetic sorce imaging and the neural basis of dyslexia. Ann Neurol Aug 1996;40:137-138).

READING DISABILITY AND BEHAVIOR PROBLEMS

The early characteristics of groups of children, aged 7 to 8 years, identified with reading disability (RD) only, behavior problem (BP) only, RD and BP, and neither RD nor BP, were compared by temperament and behavior indices, gathered in 5 periods between infancy and 6 years of age, at the Department of Psychology, University of Melbourne, Australia. The RD children with and without BP were different from each other from early childhood. BPs of both the BP-only and the comorbid group distinguished them from the non-BP groups at an early age. In contrast, the RD-only children were similar to the normal comparison group up to school age, except for lower maternal education and more difficult temperament. The early detection of RD could not rely on behavioral measures. Children at risk for developing pure RD were predominantly girls, and low educational stimulation from low maternal education was the only risk factor. The gender composition of the two RD groups differed, the RD-BP boys showing the most problems. Boys with difficult temperament, poor mother-child relationship, lower educational stimulation and relative social disadvantage were at risk of early development of BPs and later diagnosis of RD. (Sanson A, Prior M, Smart D. Reading disabilities with and without behavior problems at 7-8 years: Prediction from longitudinal data from infancy to 6 years. J Child Psychol Psychiat July 1996;37:529-541). (Reprints: Ann Sanson, Department of Psychology, University of Melbourne, Parkville, Victoria, Australia 3052).

COMMENT. This study suggests different developmental pathways for pure RD children and those with comorbid BPs. Sex differences were also evident, boys showing more behavioral problems and more difficult temperament from 1-3 years, more hostile-aggressive and hyperactive behavior from 3-4 years, and lower school readiness and task orientation.

Twin-sibling differences in ADHD children with reading and speech problems were reported from the Prince of Wales Hospital, University of New South Wales, Australia (Levy F et al. J Child Psychol Psychiat July 1996;37:569-578). Male twins had the highest rate of ADHD, speech and reading problems. The reading deficit in male twins becomes more marked in

adolescence while that in female twins decreases. Pre- and perinatal insults were not the explanation for an increased incidence of ADHD among twins.

COGNITIVE FUNCTION AND VALPROATE MONOTHERAPY

A test battery to assess neuropsychological and behavioral changes associated with anticonvulsant, particularly valproate, therapy in children is proposed from the Departments of Pediatrics (Neurology), and Clinical Health and Psychology, University of Florida, Gainesville, FL. This includes 1) intellectual functioning (WISC-III, WPPSI-R), 2) verbal memory, sentence recall, story recall, and verbal learning (Wide Range Assessment of Memory and Learning-WRAML, 3) nonverbal memory, picture memory and visual learning-WRAML, 4) attention, digit span, continuous performance task-Paced Auditory Serial Addition Task-PASAT, 5) motor speed-finger tapping test, verbal fluency-Controlled Oral Word Association, and 6) problem behaviors-Child Behavior Check List. These tests were found to be sensitive to AED-induced cognitive changes, and some tests are repeatable to allow for frequent monitoring. (Legarda SB et al. Altered cognitive functioning in children with idiopathic epilepsy receiving valproate monotherapy. J Child Neurol July 1996;11:321-330). (Respond: Dr Stella B Legarda, Division of Neurology, Department of Pediatrics, University of Florida College of Medicine, PO Box 100296, JHM Health Center, Gainesville, FL 32610).

COMMENT. The authors comment that the cognitive effects of valproate reported in normal adult volunteers and adults with epilepsy cannot reliably be applied to children. There is a relative paucity of well-controlled studies assessing memory and attentional differences in pediatric epilepsy patients treated with valproate monotherapy. Reports that cognitively impaired children on valproate therapy improve with L-acetylcarnitine supplements requires further study.

In one study involving children with epilepsy previously untreated, significant positive correlations were found between serum levels of valproate and the sum of 5 memory tests at 1 month and at 6 months after starting valproate monotherapy. Phenytoin had no adverse effects, whereas carbamazepine serum levels showed a negative correlation with memory and reading scores. (Forsythe I et al. Dev Med Child Neurol 1991;33:524). For reviews of Cognitive Effects of Antiepileptic Drugs, see Progress in Pediatric Neurology II, Chicago, PNB Publ, 1994.

TOURETTE'S SYNDROME AND ADHD

CORPUS CALLOSUM SIZE IN TOURETTE'S SYNDROME

The size of the corpus callosum (CC) in Tourette's syndrome (TS) and ADHD was determined by analysis of MRI data in 77 children and adolescents, aged 6 to 16 years, including 27 controls, at the Kennedy Krieger Institute, Johns Hopkins University School of Medicine, Baltimore, MD. TS patients had significant increases in 4 of 5 subregions (splenium, isthmus/posterior body, mid-body, and rostral body), the total area, and the perimeter of the CC. ADHD was associated with a significant decrease in the rostral body size. Inspection of subgroup means demonstrated a statistical independence of the effects of ADHD versus effects of TS on CC size. The larger CC in TS was independent of age, handedness, intracranial area, and the association of ADHD. (Baumgardner TL, Singer HS, Denckla MB et al. Corpus callosum morphology in