Aura phenomena during syncope were studied in 60 patients, mainly adults, with cardiac and 40 with vasovagal syncopes at the University Clinic, Innsbruck, Austria (Benke Th, Hochleitner M, Bauer G. Eur Neurol Jan 1997). Auras in 93% were mostly epigastric, vertiginous, visual, or somatosensory experiences, more detailed in the vasovagal group. Syncope-related auras were distinguished from epileptic phenomena by their lack of symptoms such as tastes, smells, and deja vu.

EPILEPSY AND AUTISM

The relationship of epilepsy and epileptiform EEG abnormalities to language and behavioral regression in children with pervasive developmental disorders or autism was studied in 585 patients at the Miami Children's Hospital, Florida. Regression had occurred in 30%, and 11% had a history of epilepsy. EEGs were epileptiform in 59% of 66 epileptic, and 8% of 335 nonepileptic children. Regression occurred equally in nonepileptic and epileptic children; and was associated with an epileptiform EEG in 14% of those without epilepsy. Language regression was correlated 1) with an epileptiform EEG in children without epilepsy, and 2) with more severe cognitive dysfunction. (Tuchman RF, Rapin I. Regression in pervasive developmental disorders: seizures and epileptiform electroencephalogram correlates. Pediatrics April 1997;99:560-566). (Reprints: Roberto F Tuchman MD, Department of Neurology, Miami Children's Hospital, Solomon Klein Pavilion, 3200 SW 60 Court, Suite 302, Miami, FL 33155).

COMMENT. The occurrence of language regression in children with autism is not closely associated with a history of epilepsy but does show a link with epileptiform EEGs in those without clinical epilepsy. The prevalence of epilepsy in young children with autism is relatively low (11%) but may reach more than 30% in adult life. Sleep EEGs are important to uncover epileptiform discharges in autistic children without epilepsy; language and social skills may improve after treatment with valproic acid. (see Progress in Pediatric Neurology III, PNB Publ, 1997; Ped Neur Briefs March 1994;8:20).

LEARNING DISABILITIES

THE ANATOMY OF MUSIC PERCEPTION

The cerebral functional anatomy of music appreciation in six young healthy, musically naive, right handed French subjects was determined, using a high resolution PET scanner and oxygen-15 labelled water, at the University of Caen, France, and the Wellcome Department of Cognitive Neurology, Institute of Neurology, London, UK. Four activation tasks on the same auditory material, consisting of 30 sequences of notes on tape, were used: 1) identification/familiarity with tunes; 2) attention to pitch task; 3) timbre task; 4) rhythm task. Based on the neuropsychological literature concerning music perception in brain-damaged subjects, the timbre and pitch tasks were expected to activate the right hemisphere, and rhythm and familiarity tasks to involve the left hemisphere. In agreement with the literature, *familiarity* and recognition of tunes, and the *rhythm* task caused activation mainly in the left hemisphere; the *timbre* task activated the right hemisphere. In contrast to previous studies, *pitch* processing caused activation in the left hemisphere, specifically the left cuneus/precuneus, in proximity to primary visual areas, and reflecting a visual mental imagery. (Platel H, Price C, Baron J-C, Wise R,

Lambert J, Frackowiak RSJ, Lechevalier B, Eustache F. The structural components of music perception. A functional anatomical study. Brain Feb 1997;120:229-243). (Respond: Professor Richard SJ Frackowiak, Wellcome Department of Cognitive Neurology, Institute of Neurology, London WC1N 3BG, UK).

COMMENT: The perception of music is a complex neurocognitive process involving various neural networks, with some anatomical specificity for the different basic auditory components of music (rhythm, pitch, timbre, and melody). Furthermore, visual cognitive imagery appears to be involved in pitch appreciation. Despite the recent interest in music lessons as an aid to education and academic achievement in school children, studies of the neural anatomy of music perception are fragmentary and involve mainly brain-damaged subjects. The authors cite only one previous PET study in which different components of music perception were tested for brain activation (Mazziotta et al, 1982). In their sophisticated scanning procedure, Platel, Frackowiak and coworkers have demonstrated the functional independence of sub-components of musical expression. The left hemisphere is dominant for rhythm, tune recognition, and pitch perception, while the right hemisphere is involved in timbre or quality of tone perception. Within the left hemisphere, the inferior frontal and superior temporal gyri represent melody recognition and familiarity, Broca's area and the insula process rhythm and sequencing of sounds, and the cuneus/precuneus areas, reflecting visual interpretations, are involved in differentiation of pitch. As my violin teacher, Dr Marvin Ziporyn, correctly comments when I err on pitch of a chromatic scale, "It's all in the head, not in the fingers!"

In an interesting note concerning music and art by Phillip Huscher and linking the auditory with visual interpretation (Comment on Henri Dutilleux's composition, *Timbres, espace, mouvement,* based on van Gogh's painting, *The Starry Night.* In: Notebook, Program of the Chicago Symphony Orchestra, April 3, 4 & 5, 1997;53C-E), few composers have transposed artistic canvases into musical compositions, whereas many artists have been inspired by music, notably Rubens and Raphael, in their depiction of Saint Cecilia, the patron saint of music. (P.S. I am sure that many of our readers could supply lists of musical compositions or songs based on museum works of art. PNB Publishers will offer a complimentary copy of the Editor's new book, **Progress in Pediatric Neurology III,** to the PNB subscriber submitting the longest list of composers with verifiable compositions based on museum works of art.)

HEMISPHERIC ANOMALIES IN ADHD: MRI ANALYSES

Volumetric MRI brain analyses were compared in 15 male ADHD subjects without comorbidity (mean age, 12.4 years) and 15 normal controls at the University of California, Irvine, CA. ADHD children had smaller volumes of the following structures: left caudate, right anterior-superior (frontal) hemispheric region, bilateral anterior-inferior (peri-basal ganglia) hemispheric region, and bilateral retrocallosal (posterior parieto-occipital) region white matter. The caudate size was correlated with response to stimulant medication; responders had the smallest and symmetric caudate volumes, whereas nonresponders had reversed caudate asymmetry and the smallest retrocallosal white matter volume. (Filipek PA, Semrud-Clikeman M, Steingard RJ, Renshaw PF, Kennedy DN, Biederman J. Volumetric MRI analysis comparing subjects having attention-deficit hyperactivity disorder with normal controls. Neurology March 1997;48:589-601). (Reprints: Dr Pauline A Filipek, Departments of Pediatrics and Neurology, 20T 4482, Bldg 27, University of