papilledema and Babinski signs. The CT was normal and the CSF was compatible with viral meningo-encephalitis. His condition rapidly deteriorated and bulbar, 6th and 7th nerve palsies, and spastic paralysis developed. Borrelia burgdorferi serology was positive and IgG and IgM titers were elevated in the serum but not in the CSF. Benzylpenicillin IV in high doses for 14 days resulted in slow but complete recovery. (Bendig JWA, Ogilvie D. Lancet,1987; 1: 681-2).

COMMENT: This patient lacked the history of tick bite, fever, arthralgia, and characteristic rash, erythema chronica migrans. He had been camping in France 4 months before and had been close to deer in Richmond Park 5 months before the onset of symptoms. About 15% of patients with Lyme disease develop neurological problems. A triad of meningo-encephalitis, cranial neuritis, and radiculoneuritis is described. Early treatment with penicillin in children aborts the progress of the disease.

One case recently reported (Broderick JP et al. Mayo Clin Proc 1987; 62:313), a girl from Wisconsin who had classic untreated Lyme disease at 13 years of age, developed severe focal inflammatory encephalitis with positive serologic tests 6 years later. She presented with headaches, global aphasia, and apraxia of her right upper extremity. The EEG showed slow-wave activity over the entire left hemisphere. Treatment with penicillin G 20 mill units daily for 2 weeks was followed initially by clinical deterioration but later by gradual and steady improvement. The early diagnosis of Lyme disease is important because of the serious neurological complications that accompany delay in treatment.

PAROXYSMAL DISORDERS

GUSTATORY HALLUCINATIONS IN EPILEPTIC SEIZURES

Gustatory hallucinations occurred as a manifestation of parietal, temporal or temporoparietal seizures in 30 (4%) of 718 patients investigated for intractable epilepsy by stereoelectroencephalographic exploration at the Unite de Recherches 97, Inserm, et Service de Neurochirurgie de l'Hopital Sainte-Anne, Paris. Theelectrically-induced seizures which included a gustatory hallucination in 20 patients were obtained by stimulation of the hippocampus and amygdala. The associated ictal events varied with the origin of the seizure: (1) during parietal seizures, they consisted of staring, clonic facial contractions, deviation of eyes and salivation, (2) during temporal lobe seizures, there were oral movements, autonomic disturbances, purposeless movements and epigastric or other abdominal symptoms. Gustatory hallucinations were related to the disorganization of the parietal and/or rolandic operculum. The seizure onset was at a mean age of 9.7 yrs (2-34 yrs) and the gustatory manifestations appeared at a mean age of 14.5 yrs (2-34 yrs). (Hausser-Hauw C, Bandaud J. Brain 1987;110:339-359).

COMMENT: Children with drug-resistant temporal lobe epilepsy should be considered for neurosurgical treatment. Deterioration of behaviour in a school-age child with complex partial seizures carries a poor prognosis if surgery is delayed. Reversal of social, intellectual, and character deficits associated with temporal lobe epilepsy may be expected after operation. (Lindsay J, Ounsted C, Richards P. Develop Med Child Neurol 1984;26:25-32).

Gustatory hallucinations elicited by a careful history may be helpful in the cortical localization of the seizure discharge. In my experience, this manifestation of temporal lobe seizures is rare in children but nonetheless important to consider.

DYSLEXIA, AND LEARNING DIFFICULTIES

PERIPHERAL VISION IN DYSLEXICS

Scientists from the Research Laboratory of Electronics and the Departments of Biology, Electrical Engineering, and Computer Science at M.I.T. Cambridge, Mass. have collaborated in an investigation of the peripheral and foveal (central) vision of 5 dyslexic adult subjects compared to 5 normal readers. Two letters, one at the fixation point and one in the periphery, at varying distances apart (eccentricities), were presented simultaneously and the scores for the correct identification of the single peripheral letters in the two groups were compared.

At 2.5° eccentricity (near central fixation point) the scores of normal readers were the higher. Correct identification fell off with increasing eccentricity (2.5 to 12.5 degrees) in both groups but the fall off was slower in severe dyslexics than in normal readers. At 7.5° eccentricity (peripheral field vision), the scores of dyslexic subjects were higher than those of normal readers; i.e. they were better at perceiving briefly presented letters in the periphery.

When a string of three letters was substituted for the single letters in the periphery, the severe dyslexic could identify none of the letters at 2.5° eccentricity (near central vision) but at 5° and beyond (peripheral vision) his identification of letters was near normal. After a program of exercises involving spatial organization and eye-hand co-ordination and the use of a simple device to utilize his optimal peripheral vision in reading, the performance of the severe dyslexic subject showed improvement after 4 months up to a 10th grade level. (Geiger G, Lettvin JY. N Engl J Med 1987;316:1238).

COMMENT: These interesting findings and suggested treatments will undoubtedly bring joy to the optometrists and those who favor the Kephart and Frostig methods in the management of dyslexia. Kephart's three-crucial perceptual skills to be mastered as prerequisites to reading are form perception, spatial discrimination, and ocular control. If these skills are underdeveloped, according to Kephart, the child will develop faulty intersensory integration abilities and concept formation. Frostig, similarly, maintains that adequate perceptual functioning in young children is the foundation on which later school success depends. Critics of these methods state that evidence from research studies does not support their value in reading remediation. However, several authors have emphasized abnormalities of eye movements, tracking, and visual fixations as a characteristic of dyslexics and further studies are needed.

The authors, Geiger and Lettvin, conclude that in dyslexics, there is an interaction between foveal and peripheral vision that degrades the normal ability to read in the foveal field. Dyslexics have masking or suppression of letter discrimination in the central foveal field and better than normal peripheral visual identification of letters. They suggest that dyslexics should be taught to read by use of their peripheral vision. Neurologists might argue alternative explanations for the findings based on changes in attention or