The fifth Marquis of Salisbury – briefly a prime minister of Great Britain – noticed at a court ceremony a young man who gave him a friendly smile. “Who is this young man?” he whispered to his neighbor. “Your eldest son!” answered the latter . . .

Lord David Cecil: Description of a Prosopagnosia; Damasio et al., in:
Oliver Sacks: The Man Who Mistook His Wife for a Hat

Central Disturbances of Vision

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A central disturbance of vision should be suspected when an ophthalmic examination finds normal visual acuity and normal appearing anterior and posterior segments in both eyes, in the setting of a plausible complaint of difficulty with recognition of visual images. The human visual system does not terminate at the primary visual cortex. On the contrary, central processing of images begins at the striate cortex. Given the well-vascularized tissue of the poststriate visual cortex, damage to vision in these regions is comparatively uncommon (found in approximately 2% of cases of posterior brain disease) and is often transient, managing to recover within a few weeks following onset. It is all the more important to recognize the significance of transient loss of central visual function, as it often occurs as an ischemic prodrome of subsequent permanent infarction with irreversible loss of visual perception. In contradistinction to most disturbances of the posterior visual pathways, in which there is a deficit of vision, central disturbances are
just as likely to be accompanied by an “excess” of visual perception. Many patients find it difficult to describe the changes to their vision well enough to allow proper recognition of the nature of their visual loss. This chapter provides an overview of important signs, symptoms, and simple investigational methods for analysis of such cases. In addition, appropriate diagnostic and therapeutic measures are discussed.

**Topographic Organization of Visual Perception**

Recent research results suggest a regional functional specialization of poststriate visual cortical areas. Analysis and representation of visual information take place in differing cortical regions, between which there is an active interchange of information.

**Pearl**

Occipitotemporal areas are important for the perception and recognition of colors, objects, and faces (the “how or what system”), while occipitoparietal areas are more closely associated with visual spatial perception and orientation (the “where system”) (Fig. 13.1).

However, isolated loss of individual elements of visual perception, such as color, movement, spatial perception, or facial recognition, is unusual if not rare. More commonly, there is a combined loss of higher visual functions.

**Symptoms of Central Visual Disturbances**

The symptoms of central visual disturbances depend on the location of disease or injury (Table 13.1). Damage to the retrogeniculate visual pathways or the primary visual cor-