The purpose of this paper is to discuss the relative contributions of computerized axial tomography (as exemplified by the EMI scanner) and cerebral angiography (i.e. carotid arteriography and orbital phlebography) to the diagnosis or exclusion of space-occupying lesions in and around the orbit. The orbit and its contents form an ideal situation for investigation by several methods (including, of course, direct clinical examination) since, although surrounded by bone, they are outside the cranium itself. When radiological investigations are under consideration, this ease of investigation is enhanced by the large amount of low-density fat within the orbit, which surrounds the anatomical structures therein, and forms a ready-made contrast medium. Thus, inclined-plane polytomography, computerised axial tomography and the para-radiological technique of ultrasonography have been very successfully applied to the diagnosis of intraorbital lesions. In contrast, the contribution of vascular studies has not been as great as might have been wished, because of the small size of the vessels concerned, their anatomical variability, and the relatively small displacements encountered in the presence of clinically-significant space-occupying lesions. Even in skilled hands, and using modern fine-focus X-ray tube magnification techniques the orbit remains relatively inaccessible to angiographic exploration, although the time has surely passed when a leading neurosurgeon would say that contrast studies did not give "information other than of technical interest" and that "little is gained thereby". (1)