There is a wide variety of intracranial lesions that involve the orbit. Survey of these lesions as a group emphasizes the anatomical complexity of the retro-orbital region, to which the author would like to refer as the sphenosellar recess, illustrated in Fig. 1. This concave area houses a number of important structures, namely portions of six cranial nerves, the cavernous sinus, the internal carotid artery and branches, hypothalamic pathways and frontotemporal cerebrum. In some respects, one may compare this neurovascular crossroad with the cerebellopontine angle. The considerations for surgical approach to the sphenosellar recess are certainly no less weighty than those in regard to its subtentorial counterpart.

Fig. 1. The term "sphenosellar recess" refers to the anteromedial aspect of the middle cranial fossa. A section of the internal carotid artery is shown lateral to the optic nerve. The extra-ocular nerves are embraced by the cavernous sinus.
It is the purpose of this presentation to review indications for surgical intervention in cases of cranio-orbital lesions and to exchange information on surgical management in such cases. Details of a series of type cases will be shown rather than a statistical survey of all categories. Excluded from the subject matter will be aberrant pituitary tumors, vascular lesions and infectious disorders. Apology for delineation may be offered by a quotation from the writings of Harvey Cushing, "the time is ripe for special studies of special tumors in special localities, particularly if the surgical treatment of these difficult lesions is to be perfected."

CLINICAL FEATURES

The patient with a cranio-orbital lesion usually presents one or more of the following signs: (1) exophthalmos, (2) diplopia, (3) amblyopia, and (4) orbital pain. The presence of a lesion can be established in most cases by clinical observation and roentgenograms of the skull. Special contrast studies, such as arteriogram or air injection, may be necessary for diagnosis. Arteriography is not necessarily a commitment to surgery. However, as will be stressed later, if surgery is planned, carotid arteriography should be performed preoperatively even though it may not be necessary for localization of the lesion itself.

Clinical onset of these lesions may be insidious in patients showing decrease of visual acuity and defect in visual fields. The main pitfall to be avoided is assumption of "multiple sclerosis" as the diagnosis, based on absence of pain, normal roentgenograms of the skull and normal spinal fluid findings. A contrast study may be extremely revealing. Mention of this problem of differential diagnosis perhaps seems superfluous but catastrophic errors of omission are being made currently even in this day of refined neuro-ophthalmological considerations.

SELECTION OF CASES

Once the presence of a sphenosellar lesion is established, the indications for surgery deserve careful consideration. Factors of cosmetic state, unilateral visual defects, or radiological abnormalities should not convince the surgeon that something has to be done at once. The primary factors that provide indication for surgical intervention are: (1) uncontrollable pain, (2) progressive threat to vision in both eyes, and (3) increased intracranial pressure.

Elsberg et al. pointed out that the radiological changes seen in cases of metastatic lesions may resemble the findings often associated with meningioma. However, if the lesion can be identified as metastatic malignancy, the course of action is considerably different from that with benign or relatively benign lesions. With metastatic tumors, the exophthalmos and pain often are not related to the size of the tumor mass but are the result of infiltration in the cavernous sinus (Fig. 2).

Surgical decompression of the orbit in cases of malignant invasion offers