

by microneurodissection... determining the extent to which the above unilateral losses can be attributed to visual field defects. Following chiasm section we found that there was a transient depression of monocular performance, largely attributable to the subject's failure to approach the correct choice door when it was in his temporal visual field (i.e., the side affected by cutting the crossed fibers from the nasal hemiretina). When both chiasm and callosum were split, however, there was an enduring monocular loss which was still present even after training was carried to asymptote. At this point, however, there were no differences in accuracy for trials involving choice of a stimulus in the temporal field that had suffered the sensory loss and trials with the correct stimulus in the intact nasal field. This compensation for the fiber loss resulting from cutting the chiasm is in marked contrast to the monkey's failure to compensate for the blind temporal fields resulting from section of the chiasm. Some temporal field vision may survive in the chiasm-sectioned cat because of the overlap of ipsilateral fibers onto the nasal hemiretina. Ruling out visual field defect as an explanation for the unilateral loss of capacity increases the likelihood of its being a central phenomenon.

77.9 HEMISPHERIC SPECIFICITY, COMPLEMENTARITY, AND SELF-REFERENTIAL MAPPINGS.  
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That most human attribute, cerebral hemispheric asymmetry, is inadequately characterized as modality specific or material specific; rather, the asymmetry is process specific. A geometric interpretation of process specificity is proposed--namely, that each hemisphere represents the other and the world in complementary mappings: the left mapping the self as a subset of the world and the right mapping the world as a subset of the self. It is argued that a rigorization of this complementarity requires an algebra which is not only non-commutative but also non-associative. The suggestion is offered that a mathematical modeling of the mind-brain relationship would do well to begin with the theory of operator loops, in which the identity element plays an exceptional role throughout.