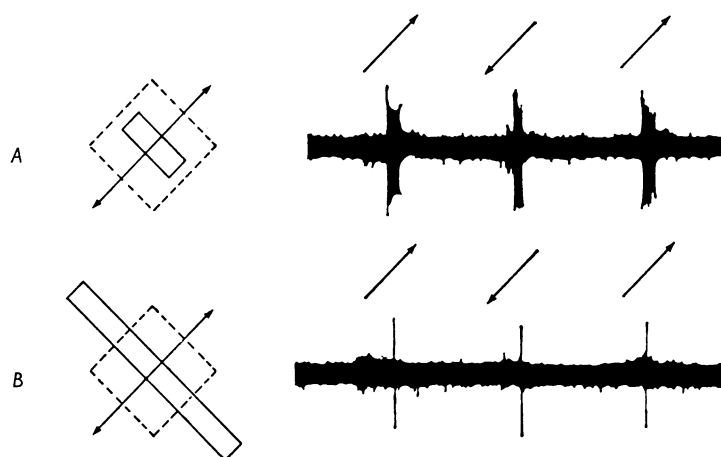


geniculate cells. The spikes of these units were small and negative, being quite different from the typical spikes of myelinated fibres seen in optic tract and radiations, and corpus callosum (Hubel, 1959; Hubel & Wiesel, 1967). The field properties and localization of these IVth layer units makes one suspect that they are axons or axon-terminals of geniculate cells, but they could be cortical cells, and it will probably be necessary to stimulate electrically the subcortical optic radiations to settle the question. Some units with concentric receptive fields had more complex responses to coloured stimuli than anything we saw in the lateral geniculate; these are discussed below.



Text-fig. 4. Hypercomplex cell recorded from right striate cortex, layer II. *A*: stimulus of left eye by moving slit within activating region ($\frac{1}{4} \times \frac{3}{8}^\circ$); *B*: similar stimulation with slit extending beyond activating region. Background, $\log 0.0$ cd/m²; stimulus, $\log 1.3$ cd/m². Duration of each record 10 sec.

Cells with specific colour responses. In the rhesus lateral geniculate body the majority of the dorsal-layer cells have opponent-colour properties, light exciting them at some wave-lengths, inhibiting them at others, diffuse white light evoking little or no response (De Valois, Jacobs & Jones, 1963; Wiesel & Hubel, 1966). For cortical cells, we expected that with this input there might be a similar emphasis on wave-length discrimination. Motokawa, Taira & Okuda (1962) have in fact described opponent colour cells in monkey cortex. It was surprising to us, however, that the great majority of cells could discriminate precisely the orientation or direction of movement of a stimulus, but had no marked selectivity regarding wave-length. There were interesting and striking exceptions to this, which are described below, but on the whole the colour responses seen in area 17 have been disappointing: for a high proportion of cells the response to a