intensity curve at threshold is completely irrelevant. Any model of the processing of visual information in the brain need not be concerned with the brightness distribution existing in the outside world, but only with the perceivable part of it that exceeds biological thresholds.

Kripke (*2*) states that translational invariance is incompatible with boundaries. Although each cell in the striate cortex deals with only a restricted region of visual space, groups of cells deal with overlapping receptive fields that together cover all of visual space. We have suggested (*3*) that a Fourier transform *begins* in the striate cortex and have noted that the ". . . complete description of any object is not achieved until some form of 'read-out' of the information in all complex cells over the involved region of visual space is established." In higher areas in the brain there are a number of cell types that respond to slits over a very wide region of visual space (*13–15*), and it is in these areas that one might look for completion of the transform. If the transform is completed, then there should exist a class of neurons that respond weakly to one slit of optimal width and orientation but much more strongly to an extended sine wave grating of the appropriate spatial frequency and orientation. These cells would not be bothered by the limited receptive field boundaries at previous stages.

The problem of vestibular inputs to the striate cortex raised by Kripke is a complicated one. Their function and significance must be carefully considered, as is done by Horn and Hill (*16*) and by Spinelli (*17*). Kripke also questions the relevance of studies on anesthetized animals for the problem of pattern recognition in awake animals. It has been shown in both awake cats (*18*) and monkeys (*19*) that receptive field properties are essentially independent of anesthesia, although the responses are weaker in the anesthetized animal.

Finally, Kripke has confused the localization of a visual stimulus, which depends upon the superior colliculus, with the problem of pattern recognition, which depends upon the striate cortex (*20*).

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Intracisternal A Particles and C Particles

The RNA tumor viruses have been grouped together because, as the term implies, they are RNA viruses which induce neoplasia. They consist of the avian leukosis-sarcoma complex, the mammary tumor virus (MTV), and the murine and feline leukemia-sarcoma complexes.

While differing in morphological and immunological detail, they as a group have certain essential characteristics. As do the myxo- and paramyxoviruses, they replicate by budding from the plasma membrane or into vacuoles of infected cells.

With the exception of MTV all of the members of this group are type C viruses as defined by Bernhard (*1*). Extracellular particles possess a centrally located nucleoid surrounded by a loosely fitting envelope. In the process of budding, type C viruses develop an envelope formed from the plasma membrane. They also develop an intermediate layer comparable to the capsid layer of DNA viruses, such as herpes, and naked RNA viruses, such as reovirus. Inside the intermediate layer is a heavily electron-dense layer forming the inner portion of the nucleocapsid. Thus the "immature" type C virion possesses three distinct components—the envelop, the intermediate layer, and the inner electron-dense shell. Depending on the species in which the virus is indigenous, the outer diameter of the virion may vary from 95 to 110 nm.

The intracisternal A particles of mice (*2*) bud only from the endoplasmic reticulum, and their total diameter averages 70 nm. They are not seen in an extracellular position in biopsy material. Thus the particles described in tissue culture cells derived from a rhabdomyosarcoma by Stewart *et al.* (*3*) are not, strictly speaking, type C particles, since they are not seen extracellularly and do not bud from the plasma membrane. The "immature" particles do not appear to possess an intermediate layer, yet some particles (mature?) possess electron-dense centers. Thus while they correspond in certain respects to the intracisternal A particles of the mouse, they differ in this essential respect. Further morphological and other studies will be needed before these particles can be placed in any particular category.

On the other hand, the particles found budding from the plasma membrane and present extracellularly in the tissue cultures isolated from a pulmonary adenocarcinoma (*3*) possess all of the characteristics of type C virions.

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