determine the sources of significance in this main effect. Stimuli at 2° yielded significantly ($P < .01$) increased latencies over each of the other visual angles, while both 3° ($P < .01$) and 5° ($P < .05$) presentations were significantly increased over the 10° conditions. Stimuli presented at 15° produced significantly ($P < .05$) longer latencies than those at 10°. A similar bimodal relationship has been hypothesized to support different visual programming systems according to location of targets in visual space [D. Frost and E. Poppel, *Biol. Cybern.* **23**, 39 (1976); F. J. Pirozzolo and K. Rayner, *Neuropsychologia* **18**, 224 (1980)].

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21. Supported in part by a grant from the Minnesota Medical Foundation and Veterans Administration. We acknowledge J. Mortimer for helpful comments and K. Malikowski and M. Anderson for technical expertise in preparing this manuscript.

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11 May 1981

Ureterosigmoidostomy and Colon Carcinogenesis

Although Crissey *et al.* (*1*) have devised a successful model for ureterosigmoidostomy in the rat, we advocate caution in accepting their hypothesis that the resulting anastomotic tumors are caused by urinary enzymes activating fecal procarcinogens. The authors overlooked the tendency for almost any intestinal anastomosis to be a favored site for tumor formation, both in man and experimental animals (*2*). Spontaneous intestinal tumors in rodents are rare (*3*), but we (*4*) encountered one adenocarcinoma at a colonic transection site in a rat receiving no carcinogen, and a similar phenomenon occurred in Crissey *et al.*'s (*1*) experiment. Since some of the intestinal carcinogen employed (dimethylhydrazine) reaches the colonic mucosa through the bloodstream (*5*), the absence of tumors at the suture line after proximal diverting colostomy probably reflects the colonic atrophy of defunction (*6*). Chemical carcinogenesis in the distal colon is reduced, though not abolished, by proximal colostomy (*7*).

We suggest that the development of tumors at sites of intestinal anastomosis is more likely to result from hyperplasia provoked by surgical trauma or the presence of suture material. Indeed, compensatory postresectional hyperplasia, which may be maximal in the immediate vicinity of an anastomosis (*8*), probably accounts for enhanced carcinogenesis after intestinal resection in experimental animals (*2*). In the experiment of Crissey and his colleagues, the specific effect of urinary diversion might have been tested by performing sigmoid colotomy or transection rather than vasectomy as the control operation.

Until some of these etiologic uncertainties are resolved, it is premature to conclude that the use of colon conduits in children is entirely free from the risk of subsequent carcinoma.

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7 April 1980

Bristol and Williamson raise a valid question as to the role of a colonic suture line in carcinogenesis. However, we found that neither a sutured colostomy (0/10) nor the anastomosis to the colon of a vascularized patch of bladder without urinary inflow (0/13) had any tumors after 1 year (*1*). These controls clearly could not suffer from "atrophy of defunction." The required presence of urine and feces for tumor formation leads us to our currently favored hypothesis that the obligatory urinary precarcinogens (for example, nitrate) become activated to short-lived proximate carcinogens by fecal bacteria. The phenomenon of suture-line sensitization to carcinogens brought up by Bristol and Williamson may well provide the explanation for the consistent location of the resulting bowel tumors at the suture line.

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20 July 1981

Plankton Productivity and the Distribution of Fishes on the Southeastern U.S. Continental Shelf

The report by Turner *et al.* (*1*) is an important contribution to a topic that is becoming increasingly popular (*2*). However, the conclusions in (*1*) could have benefited from additional sources of data which bear significantly on the results. I believe that the winter increase in offshore primary productivity shown in figure 2 of (*1*) is also an important component of nearshore shelf coupling. In the South Atlantic Bight there are generally two periods of annual abundance associated with the spawning of nearshore marine and estuarine species. A summer and early fall peak is associated with the presence of primarily anchovies (Engraulidae) and gobies (Gobiidae). This peak seems to coincide with the one shown in figure 2 of (*1*). As Turner *et al.* suggested, many individual eggs and larvae may have been washed out of local estuaries.

A second peak of seasonal abundance, however, normally occurs in winter and early spring and is coincident with the spawning of spot (*Leiostomus xanthur-*

0036-8075/81/1016-0351$01.00/0