m-dimethyl-azo-benzol) recently have been employed successfully in the production of malignant tumors of the connective tissue, liver, stomach, and bladder (Shear; Schiller; Yoshida; Otsuka and Nagao; Yamazaki and Sato).

Attention may be called to observations made many years ago by Salant and Bengis, who experimented with various related dyes (yellow AB (benzene-azo-beta-naphthylamine), yellow OB (toluene-azo-beta-naphthylamine), sudan III (benzene-azo-benzene-azo-beta-naphthol), sudan I (benzene-azo-beta-naphthol), butter yellow (benzene-azo-dimethylaniline), oil yellow (benzene-azo-phenol), sudan G (benzene-azo-resorcinol) and spirit yellow (amino-azo-benzene)). The introduction of these dyes either orally, subcutaneously, intravenously or intraperitoneally, into rats, rabbits and cats resulted in their retention in the adipose tissue. The dyes remained longer in this tissue than in any organ and the degree of retention, as well as excretion by the urine, ran parallel to the amount of dyes given (ranging from days to weeks).

A satisfactory agreement also does not exist in regard to the carcinogenicity of the three aromatic amines mainly incriminated (aniline, benzidine and naphthylamine). There is a general consensus that beta-naphthylamine, at least in its commercial form, is definitely cancer producing. There is still doubt as to alpha-naphthylamine. While German investigators are doubtful as to this substance and have listed only a few cases in which it was suspected as the activating agent (Engel, 1937), the American authors have attributed, with certain reservations, an appreciable portion (about 25 per cent) of the total number to this substance (Gehrmann; Evans). It is, however, uncertain whether alpha-naphthylamine possesses cancer-producing qualities to any appreciable degree, as the commercial product of German, American and English manufacture contains from 5 to 10 per cent beta-naphthylamine as an impurity (Engel, 1937; Gehrmann). The latter substance may account for the carcinogenic response displayed after contact with commercial alpha-naphthylamine.

The potential carcinogenic role of aniline appears to be equally uncertain if the statements of German and American investigators are compared. While the German sources are definite as to the carcinogenic qualities of this compound (Engel, 1937) and list 78 cases as caused by it and its homologues, the American authors (Gehrmann; Evans) are equally emphatic that, according to their observations, the American product does not produce tumors. Evans stated that there was not a single case of tumor of the bladder in a group of 65 men who had been engaged for as long as twenty years in the production of aniline exclusively. The average time of employment of these men was twelve years. They suffered, moreover, frequent attacks of acute aniline poisoning (Wolfe).

It is also doubtful, whether pure benzidine base is carcinogenic. According to German sources, none of the workers of a plant in which men came in