found that during the process of alpha-naphthylamine formation, by the reduction of alpha-naphthol through the action of iron and small amounts of hydrochloric acid, conditions exist which permit the development of small amounts of hydrazonaphthalene. This compound in turn may undergo in the presence of acid a benzidine change, resulting in the formation of two substances, one of which may condense into 1.2.7.8-dibenzcarbazole. If the alpha-nitro-naphthalene contained any meta-nitro-naphthalene, this may undergo similar changes to form 3.4.5.6-dibenzcarbazole.

When beta-naphthylamine is manufactured under pressure at a temperature of 150°C, an excess of heat or insufficient stirring may lead to the formation of beta-beta-dinaphthylamine, representing a contaminant of the crude beta-naphthylamine. When this is distilled in vacuo for purification, 3.4.5.6-dibenzanthracene may be formed. Carbazoles are also formed in the distillation of diphenylamine. The presence of alpha-naphthol may lead to the formation of alpha-beta-dinaphthylamine and that, in turn, to 1.2.5.6-dibenzcarbazole. A probable contaminant of beta-naphthol is beta-beta'-dihydroxy-alpha-alpha'-dinaphthyl which, when heated with zinc and ammonium chloride, yields 3.4.5.6-dibenzcarbazole. Naphthylamine workers may thus come in contact with dinaphthylamines and dibenzcarbazoles contained as impurities in the basic products. All aromatic amines, with the exception of the sulfonates, aminoanthraquinones and the more complex derivatives, irritate the bladder and therefore are suspected of possessing carcinogenic qualities (Engel).

Not only the basic and intermediate substances used in the production of dyestuffs but also the finished products, the dyes, have been mentioned by several authors as causative factors (Curschmann; Schwerin; Oppenheimer, 1920 and 1927, Schueller, and others) (fuchsin, rubin, palatin black, rhodamin, aminonaphthol red, patent blue, pure yellow, congo red, benzopurpurin, dianisin, safranin, blue rosaniline dyes, eosin, aniline black and various other azo-and diazo-dyes). A definite decision on this matter is not possible at present for all dyes incriminated, as some of the dyes often contain aromatic amines as impurities, especially basic dyes of the azin series (e.g., nigrosine, indulin or safranin), or aromatic amines are used as dye mordants or oxydizers in the dyeing process (e.g., aniline black).

It must be pointed out that there is no record in the literature of extensive, systematic and reliable investigations on the potential carcinogenic properties of synthetic dyes, especially of those which may be decomposed in the body into their aromatic amine constituents (Hueper, 1934; Shear) and thus may produce chronic metatoxic effects. A thorough study of this question appears to be highly desirable, as dyes of this type, such as yellow OB (ortho-toluene-azo-beta-naphthylamine) have been used extensively for some time in the artificial coloring of foodstuffs (Traub, Gordon and Van Dyke; Climenko; Schwartz; Editorial, *J.A.M.A.*), and in view of the fact that dyes chemically closely related (amino-azo-benzol, amino-azo-toluol, light green, o- and