

genesis of Gaffky and Paak, the Cotta Fleischvergiftung bacillus and a number of similar organisms described by various observers in epidemics of meat poisoning.

Cushing has recently made this group the subject of elaborate study in connection with the problems of fermentation, reactions of acidity and alkalinity imparted to the media, and pathogenicity. He groups with these intermediate forms the bacillus isolated by Sanarelli from yellow fever patients, a bacillus isolated by Gwynn from a cervical abscess and a bacillus which he himself has isolated from an abscess over a rib, called by him *Bacillus O.* or, by other workers, *Paracolon Cushing*.

The agglutination test so valuable in the recognition of the bacillus typhosus has proved in Cushing's hands to have an equal significance in the study of these intermediate forms. Cushing's work in this particular has recently been confirmed by McCrae working under Adami.

The term *Paracolon*, introduced originally by Gilbert to indicate the members of the colon group which differed in a few reactions from the typical colon, has found a ready acceptance among bacteriologists. Under the nomenclature of paracolibacillary organisms, Gilbert has described five different types. The first type has two members, the *opaque* variety of *B. lactis aërogenes* of Escherich, identified by its opaque yellow colonies on gelatine, and the *transparent* variety of the same, identical with the bacillus of endocarditis of Gilbert and Lion.

"The paracolibacillus of the second type is distinguished from the *B. Coli* by its inability to generate indol; that of the third type by its failure to act on lactose; that of the fourth type, by the absence of motility and of the power of generating indol; the fifth type by lack of motility, incapacity of producing indol and inactivity in respect to lactose, three of the cardinal properties of the colon."

The chief objection to such a classification is the unreliability of the reaction for indol, which as stated above has been shown to be an inconstant character of any organism.

The recent work of Fuller and Johnston, in which they classified the water bacteria found in the Ohio River, according to a large number of constant characters—using those reactions which were recommended by the Bacteriological Section of the American Public Health Association, and eliminating any tests which failed to give 100% of constancy, has suggested to the writer the advisability of adopting a somewhat similar classification in the descriptions of members of the Colon-Typhoid series. Therefore, all of the organisms which were in the laboratory were subjected to the treatment recommended by Fuller and Johnston, namely, they were grown in broth three days, in gelatine plates three days and on slant agar three days after which time the various culture media were seeded.