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**Bacteriostasis with mixed dyes.**

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Since the time of Ehrlich, chemotherapy has been largely concerned with efforts to fortify the weaknesses of bactericidal and paracitocidal substances by chemical manipulation of the molecule. It has been recently found, however, that the end in view may, in some cases, be easily achieved by the use of simple mixtures of certain dyes which have been previously shown to possess opposite selective bacterio-static properties. The fact was reported to this society last year that acid fuchsin possesses a selective bacteriostatic power which is in many important respects the opposite of the selective power possessed by gentian violet. Acid fuchsin and gentian violet will not, however, mix. I have recently shown that neutral acriflavine possesses, like acid fuchsin, a reverse selective bacteriostatic power; and acriflavine and gentian violet *will* mix. Moreover the resultant substance acts as a mixture. It is thus possible to fortify the weakness of each of these two dyes with the strength of the other. If a mixed bacterial emulsion containing *B. pyocyaneus* and *B. anthracis* be exposed to gentian violet and streaked on plain agar a pure culture of *B. pyocyaneus* will result. If the same mixed emulsion be exposed to neutral acriflavine a pure culture of *B. anthracis* results. If the emulsion be exposed to a mixture of the two dyes neither organism grows. The principle of supplementary selective bacteriostasis by means of mixtures is therefore established; and the possibility of mixing at least certain dyes, whose selective bacteriostatic powers are opposed, without the formation of a new substance is demonstrated.