



FEDERAL SECURITY AGENCY • Public Health Service
NATIONAL INSTITUTES OF HEALTH • Bethesda 14, Md.

NATIONAL INSTITUTE OF ARTHRITIS AND METABOLIC DISEASES
NATIONAL CANCER INSTITUTE
NATIONAL INSTITUTE OF DENTAL RESEARCH
NATIONAL HEART INSTITUTE
NATIONAL INSTITUTE OF MENTAL HEALTH
NATIONAL MICROBIOLOGICAL INSTITUTE
NATIONAL INSTITUTE OF NEUROLOGICAL DISEASES AND BLINDNESS
THE CLINICAL CENTER
DIVISION OF RESEARCH GRANTS

November 26, 1951

Dr. Joshua Lederberg
University of Wisconsin
College of Agriculture
Madison 6, Wisconsin

Dear Josh:

Many thanks for your most helpful letter of November 18th. Table 3 was deleted from the manuscript at the request of the editors of the Journal, who suggested that the data be included in greater detail in a following paper on the rate at which bacterial cultures lose resistance, considered as a function of their preceding exposure to the drug. The reference to the table was unfortunately not deleted from the text in your copy of the manuscript.

Your point with respect to bacteriostatic vs. bactericidal action of the drug is most pertinent. Actually, penicillin and streptomycin are directly bactericidal, and when e.g. 10^3 organisms grow out to form visible colonies in 5 days out of an inoculum of 10^8 , the large bulk of the bacteria have actually been killed by the drug, and the clear areas of the plate are sterile on sub-culture. However, with chloramphenicol (and terramycin) over a wide range of concentrations, the drug is bacteriostatic rather than bactericidal, and "resistance" should be expressed in terms of rates of multiplication rather than ability to grow at all.

The specific points you raise with respect to terminology and reference citations are most helpful, and I will make those corrections in proof.

As you suspect, there will be more to come. I don't know that it will be better, but I will certainly try to get your help and advice.

With kind regards,

Cordially,

Harry Eagle, Chief
Experimental Therapeutics
National Microbiological Institute

HE:km