tities and autoclaved at 15 lb. for 15 min. Before use, the medium was melted, cooled to 50° C. and chloramphenicol (100 μgm./ml.) added. Plates were incubated at 30° C. for 15 days. Only one type of organism appeared on the plates of the highest dilution (10^{-5}), a *Streptomyces* producing greyish-white thin mycelium and chains of chalky white rod-shaped conidia (1·6 × 0·8μ in stained preparations) borne on long open-spiral conidiophores (section *Spira* in the classification of Pridham, Hesseltine and Benedict[2]). Its cultural characteristics on the media proposed by Waksman[3] were: mycelium greyish-white on Czapek's and starch agar and nutrient gelatin, orange on glucose asparagine, glycerol asparagine and yeast glucose agar media, and lemon-yellow on nutrient agar. Chalky white conidia were produced on all the media except on nutrient gelatin where the growth was markedly poor. Pigmentation of the mycelium appeared to be connected with the heaviness of growth; on media showing non-pigmented mycelia the growth was poorer than that produced on media that revealed pigmentation. Growth in liquid media was restricted to a thin unpigmented pellicle consisting of more or less separate colonies which acquired a chalky white surface when conidia were formed. None of the media tested induced the formation of diffusible pigments. Glucose, saccharose, lactose and mannitol were not utilized. There was no hydrolysis of starch, liquefaction of gelatin, digestion of casein or cellulose, production of ammonia from peptone or reduction of nitrate. Litmus milk turned alkaline after 15 days. Growth took place at 18° and 30° but not at 55° C. The organism resisted pasteurization in glucose broth at 60° C. for 30 min. It had no antagonistic properties when tested against *Staphylococcus aureus*, *Bacillus subtilis*, *Escherichia coli* and *Mycobacterium phlei*.

Repeated sub-culture (6 times) in the ammonium nitrate chloramphenicol liquid medium, using straight wire inoculation, always resulted in growth accompanied by the inactivation of the antibiotic, that is, the organism is capable of utilizing chloramphenicol as the sole source of carbon. On sub-culturing in the same manner (6 times) in the liquid medium without ammonium nitrate (chloramphenicol medium) growth and inactivation of the antibiotic again occurred, that is, the organism is capable of utilizing chloramphenicol also as the sole source of nitrogen. This property was confirmed when the growth in the chloramphenicol medium was centrifuged, twice washed with sterile distilled water and used for inoculating fresh media (Table 1). Repeated subculturing decreased the inactivation period and improved growth. Inoculation of the liquid medium without chloramphenicol failed to produce visible growth after periods of incubation up to one month.

Table 1. DISAPPEARANCE OF CHLORAMPHENICOL ON REPEATED SUB-CULTURING WITH WASHED *Streptomyces*, INCUBATION AT 30° C.

	100 μgm./ml.*		250 μgm./ml.*	
	Inactivation period (days)	Visible growth†	Inactivation period (days)	Visible growth†
First sub-culture	7	+	20	+
Second „	3	++	7	++
Third „	3	++	5	++
Fourth „	—	—	2	+++

* In non-inoculated controls the variation in diameter of inhibition zones did not exceed ± 0·5 mm. in 20 days incubation.
† Seven days growth on glucose broth ++++.

The ability of the organism to grow in increasing concentrations of chloramphenicol as sole carbon and nitrogen source was tested by inoculating 100 ml. quantities of medium containing 100, 250, 350, 400, 500, 550, 600 and 1,000 μgm. chloramphenicol/ml. with a loopful of 7-day culture in chloramphenicol liquid medium (100 μgm./ml.). Growth of the organism and inactivation of the antibiotic took place in all concentrations up to 600 μgm./ml., where the antibiotic completely disappeared after 13 days. No growth or reduction in activity could be detected within one month in the medium containing 1,000 μgm./ml.

Finally, the purity of the *l*-chloramphenicol used (Kemicetine, Carlo Erba) was verified by the determination of its melting point, carbon, nitrogen, hydrogen and chloride contents and by checking the weight in the capsules supplied.

Work is in progress to elucidate the mechanism of the decomposition of chloramphenicol by the isolate.

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[1] Lees, H., and Quastel, J. H., *Biochem. J.*, **40**, 803 (1946).
[2] Pridham, T. G., Hesseltine, C. W., and Benedict, R. G., *App. Microbiol.*, **6**, 52 (1958).
[3] Waksman, S. A., *Bact. Rev.*, **21**, 1 (1957).

PSYCHOLOGY

An Unexpected Effect of Attention in Peripheral Vision

THE phenomenon described here suggests an unexpected effect of attention in peripheral vision.

Arrange a number of small objects such as keys, coins, etc., on a table and fixate a point among them from some convenient distance, say 3 ft. Maintaining fixation of the point selected, attend to one of the objects and try to see or describe it in detail.

A number of people including experienced psychologists and physiologists have carried out this procedure and have reported what I had previously found, namely, that the object selected for attention becomes hazy and may even disappear. The effect may persist for seconds at a time or it may be fleeting or fluctuating; but other objects in the field remain steadily visible meantime.

It is well known that the whole visual field may disappear when it is 'stabilized', and some people report that this occurs with steady fixation.

The blurring or disappearance of small regions selected for deliberate attention is, however, a different matter and suggests some form of central interference.

Much remains to be done in determining limiting conditions for the occurrence of the phenomenon and in discovering whether it is affected by training and practice. It is in any event a striking example of attention being associated with a loss rather than a gain in clarity.

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