miles and some of the treatments were destructive to other aquatic life as well as black-fly larvæ. In contrast with these results, during 1948–51 larvæ of *Simulium arcticum* Mall. were largely eradicated from sections of the Saskatchewan River for as long as 98 miles by single applications of DDT. The DDT was applied at rates as low as 0·09 p.p.m. for 16 min. as a 10 per cent solution in methylated naphthalene and kerosene.

Outstanding characteristics of the Saskatchewan River include its large rate of discharge (up to 120,000 cusec.), its freedom from aquatic vegetation, and the turbidity of the water during certain seasons of the year. During the tests, the suspended solids content of the water ranged as high as 551 p.p.m., and samples obtained by sedimentation from river water collected so far as 68 miles downstream from the point of application contained 0·24–2·26 μgm. of DDT per gram of solids. This material consisted mainly of clay and fine silt, and laboratory experiments showed that it would adsorb DDT from suspensions of 0·1 p.p.m. of DDT in distilled water.

A study of the feeding habits of the larvæ of *S. arcticum* showed that suspended particles in the river water, including much inorganic material, were consumed. It was also noted during the larvicide tests that the treatments produced much greater mortality of black-fly larvæ than of other aquatic insects, which normally do not feed on small particles suspended in the water. Quantitative samples of aquatic organisms collected before and after single applications of DDT indicated that, whereas black-fly larvæ were almost eliminated for distances ranging from 40 to 98 miles, populations of other aquatic insects were reduced by an average of 50 per cent in two tests and were unchanged in two others.

The results suggest that other fast-flowing rivers in which the water is turbid at the time of treatment might be treated similarly, and perhaps in certain clear-water streams and rivers, finely divided inorganic material with marked DDT adsorptive properties could be added along with the larvicide and kept in suspension.

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Terminology in Bacterial Genetics

The increasing complexity of bacterial genetics is illustrated by several recent letters in *Nature*[1]. What seems to us a rather chaotic growth in technical vocabulary has followed these experimental developments. This may result not infrequently in prolix and cavil publications, and important investigations may thus become unintelligible to the non-specialist. For example, the terms bacterial 'transformation', 'induction' and 'transduction' have all been used for describing aspects of a single phenomenon, namely, 'sexual recombination' in bacteria[2]. (Even the word 'infection' has found its way into reviews on this subject.) As a solution to this confusing situation, we would like to suggest the use of the term 'interbacterial information' to replace those above. It does not imply necessarily the transfer of material substances, and recognizes the possible future importance of cybernetics at the bacterial level.

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Histochemical Demonstration of Amine Oxidase in Liver

Dianzani[1] has shown that ditetrazolium can be used for demonstrating the activity of, among other enzymes, tyramine (amine) oxidase in mitochondria isolated from liver and kidney. The essential reaction here is a dehydrogenation[2], and hydrogen acceptors other than oxygen may be used in the oxidation of tyramine by amine oxidase[3]. It is therefore of interest that amine oxidase activity can be demonstrated in frozen sections of the tissue, using a tetrazolium compound as the hydrogen acceptor; even though the method is not entirely satisfactory, it shows the general distribution of the enzyme. Neotetrazolium[4] was found to be much more satisfactory than blue (di-)tetrazolium.

Frozen sections (15–20 μ thick) of guinea pig and rabbit liver were well washed in phosphate buffer for about thirty minutes to remove all endogenous substrates and then incubated with equal parts of 0·1 per cent neo-tetrazolium, 0·1 *M* phosphate buffer of *p*H 7·4 and 0·5 per cent tyramine solution, for 2–4 hr. At the end of the incubation period, the sections were washed in distilled water, fixed in 10 per cent neutral formalin and mounted in dilute glycerol. The use of very thin slices of liver instead of frozen sections for the incubation was found to be advantageous; they can then be fixed in formalin and sectioned on the freezing microtome. Control sections were incubated with (1) octyl alcohol[5] for three hours before incubation with tyramine and (2) potassium cyanide in a final concentration of 3×10^{-3} *M*, which inhibits other oxidases but has no inhibitory effect on amine oxidase.

Fat stains red with neo-tetrazolium and, together with the precipitated blue formazan, gives a general purple colour. Large fat globules can be seen in the liver, staining a bright red. This red colour can be eliminated by treating the sections with acetone, which dissolves away the fat, leaving the true (blue) colour of the precipitate. The acetone is removed by washing with water. In many cases the red colour is of advantage as it serves as a counter stain.

For the same period of incubation guinea pig liver showed a more dense precipitate than rabbit liver.