hibition was calculated on the basis of the maximum rates during the first 30 min.

It may be seen in Table 2 that these compounds do in fact inhibit tyramine oxidation. Since the amounts required are in the same range as the concentration of tyramine, it is presumed that the inhibition is of a competitive nature.

On the basis of this study, it would appear likely that compounds III, IV, V, VII, and X would be more active orally than the remaining compounds, since they are not deaminated by liver tissue. It should be borne in mind, however, that Beyer and Stutzman (*8*) have shown that tyramine can be recovered apparently intact from urine after oral administration, showing that hepatic deamination may not always be operative *in vivo*. Their finding, however, does not preclude reamination of *p*-hydroxylphenyl acetic acid in the kidney.

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The Appearance of Amoebae Tracks in Cultures of *Dictyostelium discoideum*

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A recently published paper of Bonner (*1*) indicates his continuing interest in the formation of the slime trail of the pseudoplasmodium of *Dictyostelium discoideum,* a slime mold of the order Acrasiales in the Myxomycophyta. A footnote appearing in the paper speculates on the possibility of the pseudoplasmodium trail being formed by slime given off by the individual myxamoebae which make up the migrating pseudoplasmodium.

Prior to the appearance of Bonner's paper (*1*), in January 1953, it was found that the individual myxamoebae of a culture of *D. discoideum* were leaving tracks or trails on the substrate of a plate of glucose medium. The observation was made under illumination of low intensity. The trails were best seen when the microscope was focused down, giving the myxamoebae the appearance of black spots with a bright halo. The trails appeared grayish. The culture on which this phenomenon was observed had been subcultured from an original collection of the organism made by D. D. Perkins of Stanford University. The pseudoplasmodia of this strain had completely lost their ability to migrate. Pseudoplasmodia were formed at centers of aggregation and sorocarps developed directly from the sedentary pseudoplasmodia. The slime mold in this original observation was grown in a two-membered culture with *Bacillus subtilis.*

Recently the work of January 1953 was repeated.[1] A culture of a motile strain of *D. discoideum* was secured from Ralph Emerson of the University of California. Both the motile and the previously used non-motile strains of the slime mold were cultured on four different media: (*a*) Emerson's yeast extract (*2*), one-half strength; (*b*) a modification of the Emerson medium in which glucose was substituted for starch; (*c*) cow dung agar; and (*d*) tap water agar.

It was found that the myxamoebae of both strains left trails on the various media used. The tracks were found about 5 days following the inoculation of the culture. In repeating the experiment *Escherichia coli* was used as the second member of the culture. It was observed that the frequency of the appearance of the tracks was positively correlated with the richness of the medium used. Glucose and yeast extract media showed many trails were formed which were well-defined when examined microscopically in reduced light at 100 ×. The tracks were only occasionally found on cow dung and tap water media.

Shown below are two photomicrographs (Figs. 1A and 1B) which were taken of a culture of *D. discoideum* grown on yeast extract medium. Figure 1B was photographed 20 min after Fig. 1A. The tracks or trails are clearly shown in the photographs. Close examination of the figures will show that the myxamoebae, which appear as black spots on the plates, have moved to new locations during the time interval and the extension of the trails is clearly seen.

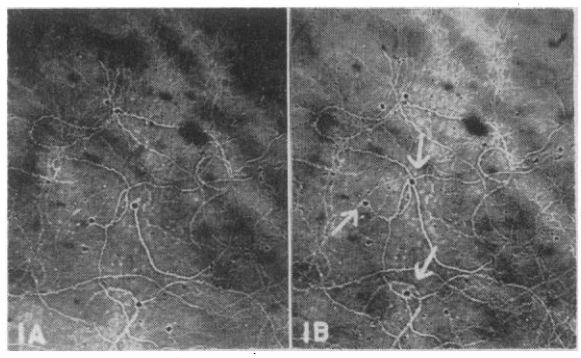

FIG. 1. A, *Dictyostelium discoideum* vegetative myxamoebae on yeast extract medium showing tracks. 100 ×: B, The same culture as 1A photographed 20 min later. Note the extensions of the tracks produced during the interval (see arrows). 100 ×.

Attempts to show that the slime trail of the pseudoplasmodium and the tracks of the myxamoebae are the same or similar substances have been unsuccessful to date. A 0.01% aqueous solution of Congo Red deposits some stain on the slime trail, but does not stain the myxamoebae tracks. The myxamoebae tracks disappear in the aqueous solution, but reappear in 10 or 15 min, presumably when the water of the staining

[1] The original observations and the repetition of this work were conducted in the laboratories of R. M. Page of the Department of Biological Sciences, Stanford University, California.

solution has been absorbed by the agar of the medium.

It is possible that the myxamoebae trails are mechanical phenomena resulting from the decreasing moisture content of the agar at room temperature. However, the correlation of the density of the tracks with the richness of the medium suggests that they are composed of metabolic products. The fact that the myxamoebae from a strain of *D. discoideum* with nonmotile pseudoplasmodia leave tracks suggests that the production of trails by the individual myxamoebae may not be intimately associated with the mechanism of locomotion of the pseudoplasmodia.

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Conformity to Social Norms and Attraction to the Group[1]

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Previous theory and research in the area of small groups has suggested that the extent to which group members conform to the group norm or standard is a function of the extent to which they are attracted to the group. Such attraction is postulated as one of the major determinants of social conformity pressure in a recent formulation of the theory of group dynamics by Cartwright and Zander (*1*). Previous research by the writer has lent some support to this assumption (*2, 3*).

If this assumption were correct, it could be expected that the degree of conformity to social pressure shown in a population of small groups would be positively correlated, to an extent significantly different from zero, with the average attraction for the group shown in each unit. A precise test of this hypothesis in a population of 28 small groups was made possible by the use of instruments for the measurement of conformity and attraction to the group.

To measure conformity in each group, subjects were asked to estimate anonymously, as accurately as possible, the number of dots in a square containing 500 dots, within a 30-sec time limit. Each subject then read out his estimate[3] and the group average was computed and announced by the experimenter. Subjects were then asked to re-estimate the number of dots; again the time limit was 30 sec.

The amount of convergence on the norm in each group was measured by the extent to which the initial standard deviation of estimates of the number of dots was reduced by the announcement of the subjects' individual estimates and their average. Such a shrinkage in original dispersion of estimates with announcement of the group norm had been found in a previous experiment (*4*), and in the present study it was again found in all but 2 of the 23 groups used in the final computations. The absolute difference between first and second standard deviations was used as a conformity index for each group.

To measure attraction for the group, subjects were asked to rate their group as a whole on an 11-point scale ranging from minus five for extreme dislike, through zero for neutrality, to plus five for extreme liking. The assumption made here was that affect, here confined to a feeling of liking or dislike for a group, is a linear dimension ranging from an extreme negative pole through a neutral point to an extreme positive pole.

Reliability of the ratings from this scale had been previously determined to be 0.80 ($N=108$), and it was found to discriminate in the expected direction between 2 small group populations already presumed to differ in level of affect. The first of these populations was made up of 6 so-called stable groups, whose members had met together voluntarily for an average of 231 hr and were extremely likely to continue doing so. Total membership was 55. In the contrasting experimental population were 7 so-called temporary groups, whose members had met together for an average of 2.47 hr and were not likely to continue meeting voluntarily. Total membership was 53.

The average rating of their groups on the affect scale by members of the stable group population was +3.4, compared to +1.4 for the temporary group population. This difference yielded a critical ratio of 5.5, and the probability that it could have occurred by chance is less than 10^{-6}. In the present experiment, the average affect scale rating of each group by its members was used as an index of the attraction the group held for them.

The dots problem and the affect rating scale were administered to 28 classroom groups, discussion sections from an elementary psychology course, in the Easter, 1953, term at the University of Toronto. In half of these groups the dots problem was presented first, and in the other half the affect scale was presented first. Final computations were based on results from 23 groups, errors in procedure having eliminated consideration of the results from 5. These 23 groups ranged in size from 5 to 13 persons and included a total of 216.

A rank order correlation coefficient was computed between the extent of convergence on the norm in each group, measured in terms of the shrinkage of the original standard deviation, and the extent to which members liked their group, in terms of their ratings of it. The correlation obtained was −0.05 for the 23 groups, the group being the unit of correlation. The hypothesis originally suggested must therefore be re-

[1] This research was supported by grants from the Research in Humanities fund of the University of Toronto and from the Canadian Social Science Research Council.

[2] The assistance of Frank W. R. Taylor in statistical analysis of the data is gratefully acknowledged.

[3] In a previous experiment (*4*), the group was informed of individual estimates by the members, but not who had made each one.