SOCIAL FACILITATION AND ALLELOMIMETIC BEHAVIOR IN DOGS

II. THE EFFECTS OF UNFAMILIARITY

by

J. P. SCOTT and MARY-VESTA MARSTON 1
(Roscoe B. Jackson Memorial Laboratory)

(With 1 fig.)
(Rec. 28-VII-1948)

INTRODUCTION

The experiments described in Part I (Vogel, et al., 1950) of this paper indicate the existence in groups of dogs of an important type of motivation which may be independent of competition. The hypothesis was presented that this motivation is the result of mutual mimicry of goal-oriented behavior, and that it is typically associated with allelomimetic behavior.

It is difficult, however, to rule out entirely the effects of possible past competition or slight and scarcely noticeable competitive effects. The experiments described in the present paper were designed to introduce a factor which should act differentially upon mutual mimicry and competition. Preliminary results (Vogel, et al., 1950) indicated that unfamiliarity was such a factor.

Dogs which are strange to each other should find it more difficult to mutually copy one another's actions. On the other hand, the strangeness should enhance any competitive effects which might be present, both because of the novelty of the situation and because competing animals could not anticipate victory or defeat as before.

The results of the experiment indicate that unfamiliarity affects social facilitation in the way which would be anticipated if competition were not an important factor in the situation. In short, dogs running with unfamiliar animals are apt to run more slowly than when running alone. The conclusions presented in part I of this paper therefore apparently rest on a secure foundation.

1) This experiment was started by H. H. Vogel Jr. and continued by the above authors with the assistance of Frank Clark.
MATERIALS AND METHODS

The techniques and conditions of the experiment have been described in detail in the earlier part of this paper. The experiment essentially consisted of running animals alone and together in a lane 170 feet long (Figure 1), at the end of which all animals received equal rewards of food and handling. The experimental situation is comparable to that used in alley-running in rats.

In the first experiment with unfamiliarity, (Experiment III of the whole series) the animals were run together with pen mates and litter mates as in Experiment II where social facilitation was observed, and on the same day were given comparable runs with animals which were not familiar. Each dog was then given 10 daily paired trials with a familiar animal and an unfamiliar animal.

Since it was expected that a dog would rapidly become familiar with the strange animal while running with him on successive days, a final experiment was designed (Experiment IV) in which unfamiliarity was increased by running each dog with a different animal each day until all possible combinations in the group of 16 animals had been exhausted. As a control each animal was also run by himself on each day of the experiment.

Figure 1. Plan of the running course and experimental field.