The present communication is concerned with the relation between these two phenomena and intelligence.

I set persons the task of searching for an object which might be in one of a number of places, and related the strategy they adopted to their intelligence. This task could either be carried out systematically, or the person could gamble, he could work at 'random', pitting his confidence in his hunches against the risk of forgetting where he had looked. (The advantage of approaching this task systematically is that it ensures no moves will be forgotten.) Forty subjects were each given three problems; eighteen of them always worked systematically. When they were ranked according to their intelligence test scores, it was found (using Whitfield's[5] method) that these eighteen were of significantly higher intelligence than the rest ($p < 0.002$, two-tailed test).

The results posed a question. Did the more intelligent subjects have sophisticated ideas about subjective probability, or did they have the usual ideas but prefer to use the alternative, systematic, approach? In order to throw light on this question the results of my subjective probability study[3] were re-examined from the point of view of intelligence. This showed that intelligence and subjective probability were not related. It would seem, then, that intelligence determined not the hunches the man had, but whether he chose to be guided by them.

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Constant Temperature Water-Bath

A stationary manometric respirometer for the simultaneous measurement of oxygen consumption and contraction amplitude of electrically stimulated muscle preparations has been developed[1]. It is necessary to immerse this apparatus in a water-bath having a temperature control of ±0·01° C.

The most compact and efficient unit available ('Circotherm' unit with mercury contact thermometer No. 4110, 25–50° C. in 1/20th divisions. Shandon Scientific Co., Ltd., London), comprising heater, stirrer, thermometer and thermostatic control is found to give an accuracy of only ±0·023° C. under our experimental conditions. However, by including a 'Variac' continuously adjustable auto-transformer (Type *V6 HMT*. Zenith Electric Co., Ltd., London) in the above heater circuit the desired temperature control is easily obtained.

An unlagged 'Perspex' bath (0·32 m. × 0·25 m. × 0·25 m.) containing 20 l. of water is used: this stands on a metal frame in the laboratory at normal room temperature. By reducing the heater input voltage from 250 V. to 75 V. the temperature fluctuations are reduced from ±0·024° to ±0·001° C. in the centre of the bath (Fig. 1) and from ±0·016° to ±0·002° C. in the corner of the bath (Fig. 2). With 75 V. the absolute temperature differences between any two positions in the bath are ±0·006° C. (reducible by the use of lagging and additional stirring devices).

In practice the water-bath is brought to the required temperature with the 'Variac' giving full mains voltage. The voltage is then reduced to the working value of 75 V. The rate of stirring is unaffected. This system avoids the necessity for using both a booster heater and a smaller one.

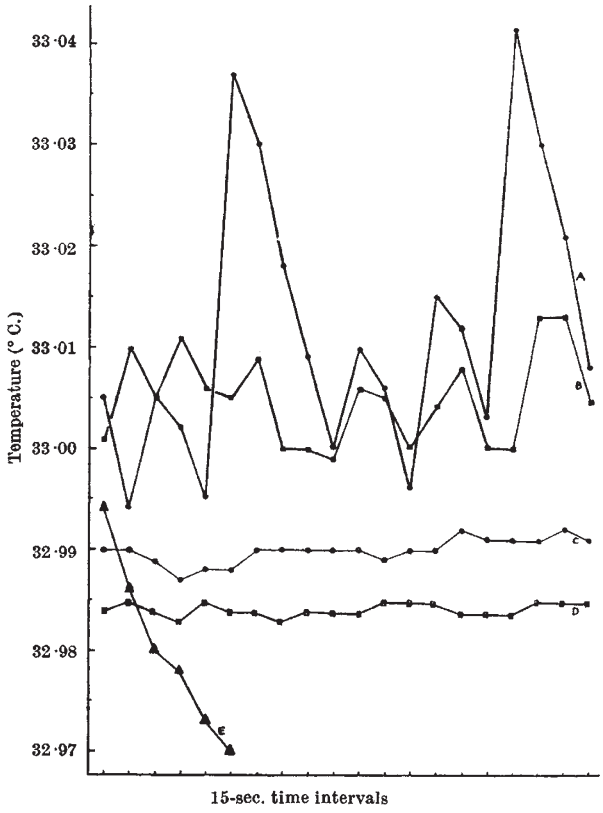

Fig. 1. Temperature fluctuations at centre of bath. *A*, 250 V.; *B*, 150 V.; *C*, 100 V.; *D*, 75 V.; *E*, 50 V.

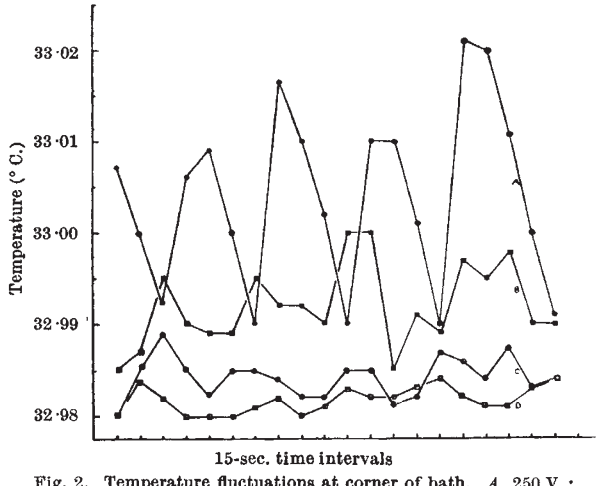

Fig. 2. Temperature fluctuations at corner of bath. *A*, 250 V.; *B*, 150 V.; *C*, 100 V.; *D*, 75 V.

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