noradrenaline concentrations in the control and experimental decrementers.

Each nondecrementer detected at least 83 percent of the signals presented in tests before and after the main watch, and in every 15-minute period of the main watch. However, because of the paucity of data, little can be said of this group's adrenaline and noradrenaline responses in the experimental condition. In general, the average concentration of noradrenaline for the nondecrementers was similar to that of the decrementers. With respect to adrenaline, two of the three nondecrementers (the third never yielded samples with measurable quantities of adrenaline) demonstrated an increase from the first test to the average of six samples taken during the main watch. The average concentration rose from 0.4 to 0.8 μg/liter. This reaction was unique to the nondecrementers in the experimental condition.

For those subjects whose performance deteriorated over time on watch, the results reported here indicate that vigilance as inferred from signal detections in a watch-standing task is paralleled by a concomitant change in the concentration of circulating adrenaline.

An unexpected finding was that in the experimental decrementers, the initial concentration of adrenaline was high in comparison to that in the controls. Perhaps anticipation of the difficult watch-standing task was stressful and resulted in an increased production of adrenaline. (Comments by the subjects indicated that they considered the watch-standing task to be noxious and the movie-watch relatively enjoyable.) Similar responses have been noted in persons subjected to such psychological stresses as performing difficult, lengthy mental tests (*11*) and awaiting rides in a centrifuge to determine tolerance limits (*12*).

Whatever the cause, this increased initial production of adrenaline could serve an adaptive purpose to a monitor, since it has been shown with an infusion technique that an increased amount of circulating adrenaline facilitates human ability to concentrate in tedious tasks (*13*). Still, it appears from my results that few monitors can maintain this increased production. The concentrations of circulating adrenaline decline, as hypothesized, to approximate the concentrations found in control decrementers under "relaxed" conditions.

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References and Notes

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Convection-Plume-like Phenomenon

Hackman's comment [*Science* **149**, 764 (1965)] on Peterson and Damman's report on convection plumes from trees [*ibid.* **148**, 392 (1965)] brings to mind a phenomenon observed on several occasions by myself and others. At times close to sundown, vertical columns of tiny insects (smaller than mosquitoes) would be seen directly above guests at a lawn party. These columns would doggedly remain with the person afflicted with them, try as he might to lose them. The ability of the columns to follow very rapid movements of the "host" and still remain vertical seems to cast doubt on a convection-current explanation, but tipsy bystanders often proposed a more ribald explanation having to do with aroma.

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Contaminants: Addendum

Two additional references are pertinent to my report on "Fluorescent contaminants from plastic and rubber laboratory equipment" [*Science* **149**, 1382 (1965)]: P. R. White, *The Cultivation of Animal and Plant Cells* (Ronald Press, New York, 1963), p. 52; and C. D. Swift, *Steam Power Plants* (McGraw-Hill, New York, 1959), pp. 263–64. White points out that Bakelite caps sometimes release volatile and toxic phenolic residues, and Swift provides information concerning the use of morpholine in steam plants to prevent corrosion of steampipes.

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