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Letters

Female brains

In your summary of the report that the human female brain may have a larger corpus callosum than the male (SN: 6/26/82, p. 422), one researcher was quoted as saying that female brains are therefore "less specialized." On the contrary, a brain with a larger corpus callosum is a brain in which the "specialists" talk to each other more, an obvious advantage in complex abstract thought. One might call such a brain interdisciplinary.

Merilee D. Karr
Federal Way, Wash.

Rotating shifts

The article by W. Herbert concerning the adverse effects of shift rotation on work performance (SN: 7/31/82, p. 69) recalled experience gained the hard way at the NACA Langley Memorial Aeronautical Laboratory at Hampton, Va., some four decades ago.

With the start of World War II, the three laboratories of the nation's primary aeronautical research organization, NACA, concentrated and

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Cover: Count Raggi's bird of paradise (*Paradisaea raggiana*) is one of 42 species of colorful and bizarrely ornamented birds of paradise. To evolutionary biologists these birds, and their relatives, the bowerbirds, are among the most baffling of avian families. (Photo: © Tom McHugh, Natl. Audubon Soc. Col., Photo Researchers)



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accelerated efforts to the generation of technology for advanced military aircraft. The personnel complement was increased several-fold and principal experimental facilities were placed in multiple-shift operation and a six-day work week. The Langley 19-foot pressure wind tunnel, where I was assigned, operated around the clock with three shifts. For both model setup and test operations, the engineers and technicians worked in a compressed-air environment (2.5 atmospheres) with two 3-hour entries per shift. Personnel were rotated (forward) in shift assignment every four weeks.

Operational mistakes and accidents (some serious) were common, partly from insufficient experience, but also from the physical and psychological stress and strain. Compressed-air exposure was both enervating and annoying (e.g., clogged sinuses, mild symptoms of caisson disease). For third shift personnel, daytime sleep was difficult, particularly during summer because of hot, humid weather and lack of home air conditioning; tempers were on edge by the fourth week, and to limit arguments, conversation during shift hours was limited to the work at hand. The time period between 04:00

and 06:00 was particularly difficult.

During the experiments, considerable data had to be recorded by hand because of insufficient automated recording equipment. Mistakes in data transcription, which oftentimes occurred, were eventually identified as occurring most frequently during the third shift. An overlapping three-shift schedule was developed which allowed two compressed-air entries per shift but with the workday beginning at 05:30 and ending at 24:00. Personnel morale improved as did data quality, with little change in the quantity of work accomplished.

D. E. Conner
Yorktown, Va.

Your magazine is most informative and I enjoy it tremendously. I found the recent article "Punching the Biological Timeclock" to be quite interesting.

As a nurse with experience rotating shifts in hospitals, I agree that short intervals for shift rotation violates one's circadian rhythms. I'd like to call your attention to the article, "Body Rhythm Effects on Rotating Work Shifts" by

Continued on p. 158

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