

## Looking for More From Coffee, Sleep, Dung, and Parrots

**More than a caffeine high,** coffee provides Americans with more antioxidants than any other food or drink, according to researchers at the University of Scranton. "Nothing else comes close," Joe Vinson, a chemistry professor, said in a news release.

Antioxidants fight diseases, like heart disease and cancer. Mr. Vinson measured the quantity of antioxidants in more than 100 foods and drinks, including vegetables, fruits, nuts, spices, and oils. Then he used data on the average per capita consumption, from the U.S. Department of Agriculture, to work out the daily quantity of antioxidants that people consume from each of the foods and drinks.

Coffee led the way, followed by tea, bananas, dry beans, and corn. Mr. Vinson reported at the August meeting of the American Chemical Society, in Washington. Should the health-conscious set aside their juice blends and leafy greens for a cup of joe? Mr. Vinson says no. Dates, cranberries, and red grapes ranked highest per serving in antioxidants. "Unfortunately," he said, "consumers are still not eating enough fruits and vegetables."

**More than a ticket to a well-paying job and self-actualization,** a good education

can bring a good night's sleep—but only for women.

Researchers at the Harvard School of Public Health and in Taiwan performed a survey of nearly 40,000 people, asking them about their sleep habits as well as several other variables, including employment, marital status, health, income, and education.

As in previous studies, women were more likely to experience insomnia than men. But women who had at least attended high school were less likely to have trouble sleeping than were women who had less education, the researchers reported in June in the *Journal of Epidemiology and Community Health*. And because men with more education were more likely to have troubled sleep, with more education, women closed the sex gap somewhat.

Social factors, the authors say, clearly play a role in the gender gap in insomnia but cannot entirely explain it.

**More than a source of waste or compost,** cow manure could provide electricity. Two engineers at Ohio State University at Columbus have found that the microbes in a liter of the fluid in a cow's stomach produce about enough electricity to charge a rechargeable AA battery.

Some of the microbes from the cow's stomach also end up in its dung.

The electricity is produced as microorganisms in the cow's stomach break down cellulose, the primary component of the plant material that cows eat. Ann D. Christy and Hamid Rismani-Yazdi, of Ohio State's department of food, agricultural, and biological engineering, ran a fuel cell using about half a liter of the fluid and produced 600 millivolts of electricity.

Then, with several undergraduates, they used cow manure to provide electricity for fuel cells, the researchers reported at the chemistry conference in August. "The students put a few of these cells together and were able to fuel their rechargeable batteries over and over again," said Ms. Christy in a news release.

**More than a fast talker,** a parrot has proved to have a head for numbers, too. Not just any numbers, either—this parrot has wound its brain around the concept of zero, something that most people can't do until they are 3 or 4 years old.

But this is also not just any parrot. It's Alex, a 28-year-old gray parrot and research subject of Irene Pepperberg, a psychologist at Brandeis University. Alex

has a 100-word vocabulary, can count to six, knows colors, and understands concepts like "bigger," "under," and "the same."

Alex had been taught the label "none" to describe a lack of similarity between two objects. He spontaneously used it in a test of his counting skills when objects on his tray had been cleared, even though he

had never been taught the concept of the absence of a numerical set. In further tests, he consistently identified zero in quantity, Ms. Pepperberg reported in the *Journal of Comparative Psychology* in May.

Although this is the first bird to demonstrate an understanding of zero, Ms. Pepperberg believes that Alex's cognitive skills are common to gray parrots. "It seems likely that these skills are based on simpler cognitive abilities they need for survival, such as recognition of more versus less," she said in a news release.

—LILA GUTERMAN

