

## Heavy coffee drinkers get more heart attacks

A heart attack is an acute obstruction of the blood supply to the heart. Late last year, Hershel Jick and his colleagues at Boston University Medical Center reported that 276 patients who had had acute heart attacks had drunk more coffee than 1,104 control patients with other diseases (SN: 1/6/73, p. 10). They now have more findings, reported in the July 12 *NEW ENGLAND JOURNAL OF MEDICINE*, to strengthen the link between coffee drinking and heart attacks.

This time they surveyed 12,759 hospitalized patients, including 440 who had had acute heart attacks. Again they found a strong correlation between coffee drinking and heart attacks. If people drank one to five cups of coffee a day, their risk of having a heart attack was 60 percent higher than those who drank none. If they drank six or more cups a day, the risks were 120 percent higher than those who drank none.

The connection between coffee drinking and heart attacks thus becomes stronger. But the reasons for the relationship are no clearer. Caffeine is an unlikely explanation. In the first study, both patients who had had heart attacks and those who had not drank a similar amount of tea, and tea has substantial amounts of caffeine in it. In the second study, again caffeine was not implicated, because tea showed no relationship to heart attacks. Jick and his colleagues ruled out sugar in coffee, and indirectly milk in coffee. Other factors that did not appear to influence the relationship of coffee drinking to

heart attacks include age, sex, smoking, occupation, past heart disease, congestive heart failure, high blood pressure, diabetes and obesity. Two factors they have not evaluated, however, are chemicals in coffee other than caffeine and personality.

"Substances other than caffeine in coffee have not been studied very well," Jick told *SCIENCE NEWS*. "But there are

many things in the coffee bean other than caffeine. One or more of these chemicals might contribute to the risk of heart attacks. On the other hand, there might be something in the personality of heavy coffee drinkers that predisposes them to heart attacks. All we can say is, for some reason or another, heavy coffee drinkers do tend to get more heart attacks." □

## Skylab news briefs . . .

### Report on Skylab accident

The micrometeoroid-heat shield ripped off the Skylab workshop during its launch, May 14, probably because technicians failed to seal two small openings in the structural braces on the outside of the workshop. These braces ran through a tunnel under the shield. Pressure built up inside the tunnel and popped the shield off the workshop surface. Failure to seal the openings resulted from a breakdown in communication between the aerodynamicists, the engineering designers and the fabrication personnel. No one person was put in charge of design and development of the shield.

These findings were released last week in a report prepared for NASA by a special accident review board. The board had been analyzing the launch failures since May.

The review group identified 10 possible ways the shield could have failed, but concluded that the most probable cause was inadequate venting of the pressure in the tunnel under the shield. The differential pressure that thus built up in the tunnel as the vehicle climbed through the atmosphere forced the shield away from the shell of the workshop into the supersonic air stream.

When the shield ripped off the workshop, it broke the tie-downs which held one of two solar panels of the workshop. The group found that it was 10 minutes or so later that the solar panel was completely torn away from the workshop. This happened when the panel was struck by the exhaust plume of the second-stage retrorockets.

The board found no conflicts or inconsistencies in the records of the Skylab management reviews. "Nonetheless, the significance of the aerodynamic loads on the meteoroid shield during launch [was] not revealed by the extensive review process." One possible reason was that the shield was considered a part of the workshop structure itself and not treated as an independent, complex system involving several different technical disciplines. The board suggests there should have been a project engineer in charge of the shield.

The group, chaired by Bruce T. Lundin, director of the Lewis Research

Center, found no evidence that NASA or the prime contractor, McDonnell Douglas, tried to mask the deficiencies in the shield design.

The board recommended more deliberate interaction among engineers working on different systems but cautioned against stifling creativity with over-formalized procedures. □

### Skylab 2 to last 59 days

The mission of Skylab 2 astronauts Alan Bean, Owen Garriott and Jack Lousma will last 59 days instead of the earlier planned 56 days. The countdown was proceeding satisfactorily this week for their July 28 launch.

The reason for the extension is to allow a more favorable location for splashdown. The 56-day mission would have dictated a splashdown 1,200 miles southwest of San Diego. If the full 59-day mission is flown, the crew will splashdown on Sept. 25, 340 miles southwest of San Diego.

NASA decided on the extension following a review of the medical findings of Skylab 1. Charles A. Berry, director for life sciences, reported the medical data revealed no reason to shorten the mission.

But medical precautions will be taken. At mid-mission there will be a major review of the medical results from the Skylab 2 crew. Weekly reviews will then follow. After each weekly review, Skylab director William C. Schneider will approve continuation of the mission for the next seven-day period. □

### Solar panel giving bonus

The Skylab solar panel is putting out more electrical power than expected. To a space station that has power problems, that's good news.

The Skylab space station lost one of its solar panels during launch. The other panel did not deploy properly, but was yanked out by the Skylab 1 astronauts. TRW, Inc., builder of the panels, said last week that the one remaining wing, designed to produce 6,200 watts minimum power at 55.25 volts, is actually producing between 6,500 and 7,500 watts. The wing is designed to operate for a minimum of one year. □

## Soviet spacecraft bound for Mars

The Soviet Union launched a spacecraft to Mars last weekend. Mars 4, according to Tass, "will continue the scientific exploration of Mars and space near it" begun by the Mars 2 and 3 spacecraft which landed on that planet in 1971 (SN: 6/30/73, p. 420).

Western scientists had been predicting the Soviets would take advantage of the current "launch window"—a 30-day period that occurs every 26 months when the positions of earth and Mars make a launch to Mars favorable. Mars 4 is expected to carry a television camera to the surface to relay pictures of Mars back to earth. No mention was made in the Tass announcement of a second or backup spacecraft, but a launch of Mars 5 would not surprise Soviet watchers.

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