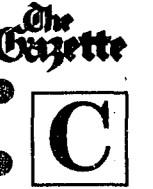


INSIDE

- TV, 5C
- Comics, 6C
- Advice, 7C

HEALTH & SCIENCE



BRIEFS

Another cliché shattered

■ Where are you most likely to die in a car accident? Many Americans would reply "France," and anyone who has scurried across a Parisian boulevard will understand why.

In reality, the world's record holder for auto-related deaths is — surprise! — Latvia with 34 dead per 100,000 people per year. Second place is held by Estonia (31 per 100,000), followed by Portugal (29), Saudi Arabia (23), Poland (20), the United States and Mexico (17 each), and France (16). Details appear in World Watch magazine.

Nazi mathematicians

■ In recent years, the reputations of several famous scholars in the humanities have been soured by revelations of their pro-Nazi pasts. Examples include philosopher Martin Heidegger, now deceased.

Now mathematicians are attracting the same scrutiny. A letter in the latest issue of Notices of the American Mathematical Society charges that in recent years, a German mathematical journal has run disturbingly uncritical obituaries of German mathematicians with prior Nazi sympathies. As a result, "an historically accurate perspective on the past is withheld from young and future readers," says the letter, which is signed by 15 mathematicians.

San Francisco Examiner

Urinary problems

■ A new nonsurgical procedure that involves injections of a natural protein may help some people with stress urinary incontinence. The procedure calls for collagen, a protein in humans and animals that provides structural support and stability to connective tissues, to be injected into the tissue surrounding the urethra, the tube that carries urine from the bladder.



The collagen injections increase pressure on the urethra by adding bulk to the tissue. This pressure helps minimize urine leakage.

Until now traditional treatment has included muscle exercises, behavior modification, medication, a catheter, and as a last resort, surgery.

Researchers at Rush-Presbyterian-St. Luke's Medical Center in Chicago, followed 271 patients who were being treated for stress urinary incontinence for one year. After receiving collagen injections, 62 percent, or 168, no longer leaked urine and 93 percent, or 252, showed some improvement. The procedure recently was approved by the Food and Drug Administration. More than 10 million Americans suffer from stress urinary incontinence, or the involuntary loss of urine.

Rush-Presbyterian-St. Luke's Medical Center

To the bat cave

■ The federal government wants to seal abandoned underground mines that threaten human safety. Tens of thousands of these potentially dangerous chasms are located across the nation, especially in Western states with a history of boom-and-bust mining, such as Nevada.

Unfortunately, sealing the caves could endanger their inhabitants: bats. "Twenty-nine of the bat species in North America are known to roost and raise young in abandoned mines," reports Update, published by the Center for Conservation Biology at Stanford University. "In locations where natural (bat) roosting has been eliminated by human disturbance, abandoned mines may be critical to bat survival . . ."

This unintentional bat-busting could harm the whole ecosystem, warns Update. "Bats play important ecological roles, including essential pollination of a wide variety of plants (and insect control) . . . It has been estimated that a moderately large bat colony can consume tens of millions of insects each night."

HEART HELP

Problems start in childhood

By Tom Walsh

Gazette Correspondent
Over the past 23 years, a whole generation of Eastern Iowans has taught doctors a thing or two about the childhood origins of heart disease.

"We know now that the atherosclerotic process definitely begins in childhood," said Dr. Ronald Lauer, a University of Iowa pediatric cardiologist. "We know that it is related to levels of cholesterol and to smoking behaviors in late childhood and early adolescence. And there appears to be a considerable genetic effect."

"And there is hope," he said, "that changes in nutrition, exercise and, eventually, better understanding of genetics, will allow us to develop therapies that we do not have available now."

In 1971, Lauer assembled a team of researchers to begin measuring blood pressure, cholesterol levels and body fat in more than 10,000 Muscatine-area children ranging in age from kindergarten to high school.

Twenty-three years later, 800 of those "kids" — some now pushing 40 and with children of their own — are still being studied at U of I Hospitals and Clinics as part of the Muscatine Project, one of the longest-running heart research projects in the world.

Lauer, pediatric colleague Dr. Larry Mahoney and other researchers are still busy studying how — and when — the once symptomless origins of heart disease in children evolve into the circulatory problems that have triggered an epidemic of heart attacks and strokes in adults.

Both physicians are in Dallas today to give the American Heart Association a status report on their work. Countless thousands of hours and many millions of dollars have been invested in the Muscatine Project since 1971, with all of the funding coming from the National Heart, Lung and Blood Institute of the National Institutes of Health.

While in Dallas, Mahoney will discuss with other researchers how he's been using an electron beam tomography device to identify plaque buildup in the coronary arteries of 800 Muscatine Project recruits who were first examined in high school and again when they were in their 20s. It's a study involving U of I researchers, Drs. William Stanford and Brad Thompson, both radiologists, and Trudy Burns, who is providing statistical analysis of research data.

The cine-CT hardware involved collects 40 detailed cross-sectional images of the beating heart over two 20-second periods. Software developed by the Mayo Clinic allows a computer to analyze those images to determine tissue density. Those density readings identify areas of calcified plaque, an indicator of atherosclerosis — constriction of the coronary arteries by plaque that can create blockages that trigger heart attacks.

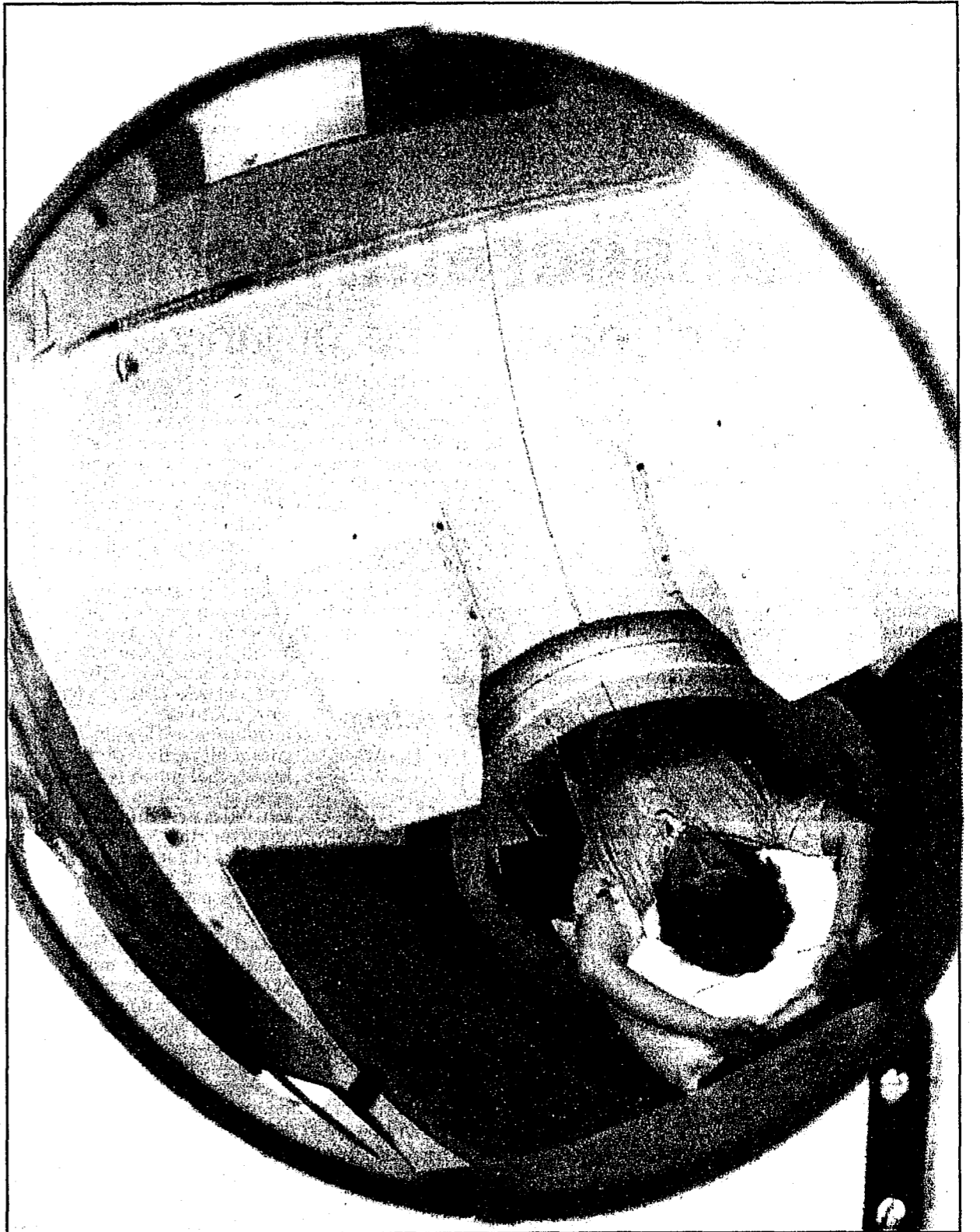
"Our findings, based on 190 males and 180 females, show that 30 percent of the males and 10



Dr. Ronald Lauer



Dr. Larry Mahoney



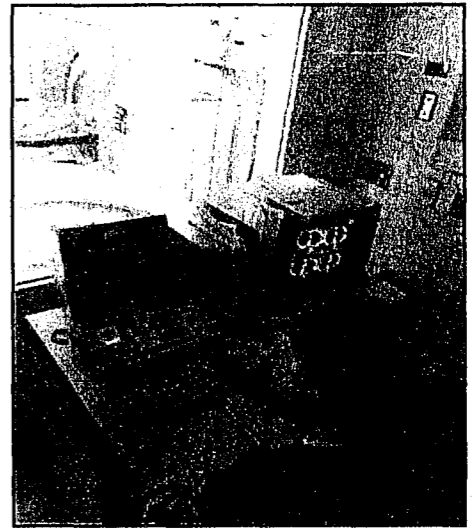
Lori Toyne of Muscatine holds her breath while the cine-CT scanner takes 40 cross section images of her heart over two 20-second periods.

percent of the females have evidence of atherosclerosis at this age," Mahoney said. "We don't know the significance of this yet in terms of whether or not the presence of this calcified plaque means these people are more prone to heart disease. The research on that goes both ways."

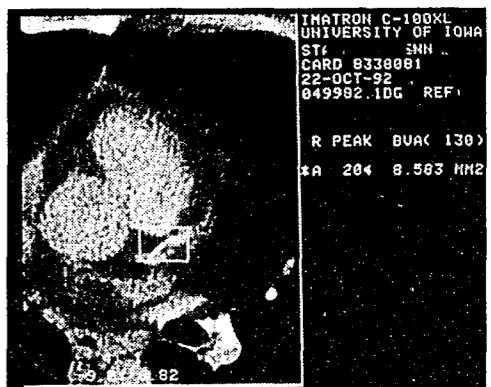
"If we did these same studies on people in their 70s and 80s, probably all would have some calcification," he said. "Not everybody in their 70s and 80s is dying of heart disease, but, if calcium is a marker of a problem, we can use this technique of measuring it to determine whether dietary or other interventions will slow its progression."

Lauer said nearly 25 years of data has shown

■ Turn to 2C: **Heart**



Senior imaging technologist Connie Spicher, Mount Vernon, monitors the scans shown below.



The marked area in this x-ray of a heart indicates calcified plaque in a Muscatine resident's coronary artery.

Gazette photos by Linda Kahlbaugh

YOU by JOK CHURCH

Dear Jax,
Why is the sky blue?
Jon Edwards
Kingston, Washington

Beakman or Jax,
P.O. Box 30177
Kansas City, MO 64112
Send your question & address.

Dear Jon,
That's one of those in-your-face type questions — something that You Can see every day without thinking about it much. When we do stop to think a moment, we remember that the sky is really all different colors. It just depends on the time of day. You Can make a blue sky on a kitchen table. You Can also make a sunset, when the sky is red or orange.

Afternoon in San Francisco is sunset in New York, where the light has to travel through more air to get to the ground. That much air scatters out all the colors in the sunlight except reds and oranges.

San Francisco St. Louis New York

experiment #1
Tabletop Sunset

WHAT YOU NEED: Water - milk - flashlight - wide, clear glass bowl - complete darkness

(The bowl may be a bit hard to find. Sometimes people put flowers in a wide, clear bowl. Or try a punch bowl. Either will do.)

WHAT TO DO: Wait until it's dark. Fill the bowl with water and 10 to 15 drops of milk. Shine your flashlight down from the top. Now shine the light from the side and look straight at it from the other side of the bowl.

Not just blue

Look at the picture of the Earth. The arrows show how it spins. The top view shows how it would look from way above the North Pole looking down.

Side View Top View

Honolulu Chicago London

It's sunrise in Hawaii, noon in Chicago and sunset in England. Sunlight has to go through more air in the morning and evening. The sky is blue in Chicago. But it's also red or orange in Hawaii and England.

WHAT IS GOING ON: You just made a model of the sky. Light from above turned the water light blue. From the side, the water was red and orange. The milk acted like the air and scattered the blue light.

SUNlight is ALL colors

If you are a regular reader of You Can, you know that what looks like white light is really all colors mixed together. When the sun is straight up, the air scatters some of the blue light. That is what we see — scattered blue light, and it makes the sky look blue.

Even though the sky looks blue most of the time, clean, dry air is colorless. Smog is sometimes called photo-chemical pollution. Sunlight changes chemicals in the pollution and turns it brown.