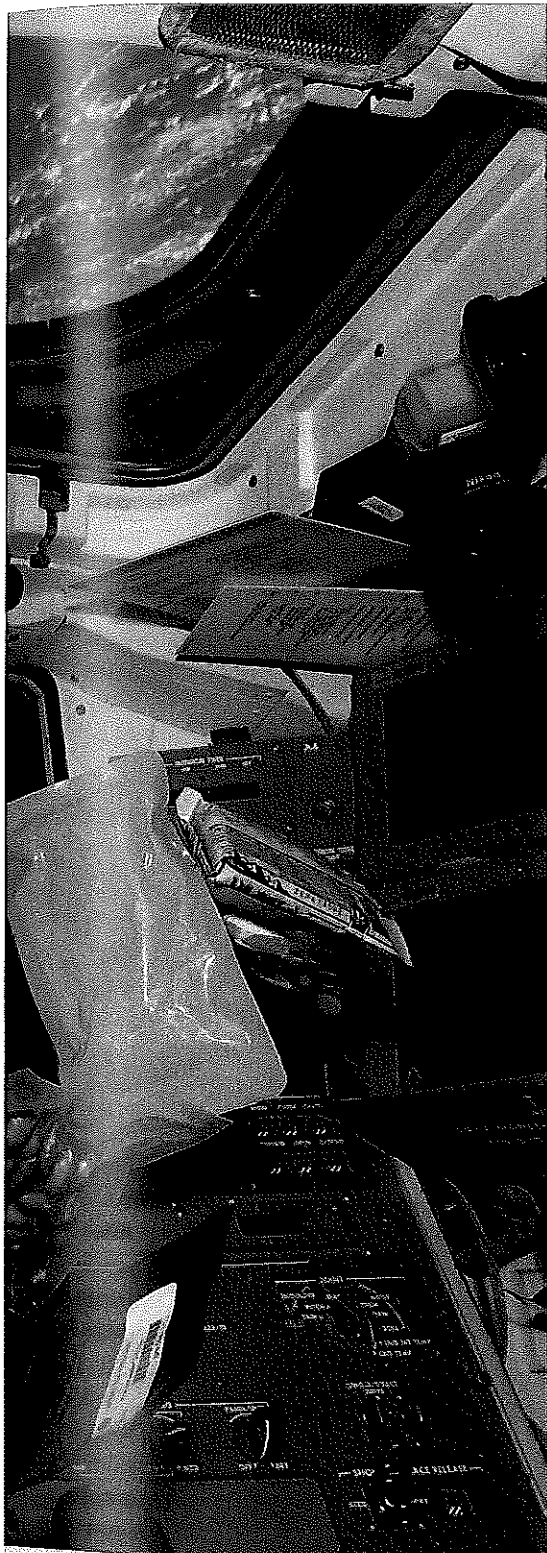


2700



USA

Leland Melvin The Astronaut

ONE DAY'S FOOD

IN FEBRUARY

NASA SPACE MEAL A Mexican scrambled eggs, 1.3 oz • Yogurt-covered granola bar, 1.2 oz • Vanilla breakfast drink, 1.4 oz • Orange juice, 1.2 oz

NASA SPACE MEAL B Split pea soup with ham bits, 7 oz • Chicken with peanut sauce, 7 oz; eaten in a flour tortilla, 1.1 oz • Mixed vegetables, 4 oz • Vanilla pudding, 4 oz

NASA SPACE MEAL C Tuna salad spread, 2.9 oz; with crackers, 1.3 oz • Smoked turkey, 2 oz • Carrot coins with butter and parsley, 4.8 oz • Shortbread cookies, 0.5 oz • Green tea with sugar, 0.6 oz

SNACKS AND OTHER Citrus fruit salad, 5 oz • Trail mix with *Ocean Spray Craisins* (sweetened dried cranberries), 1.8 oz • *Clif Bar*, cranberry apple cherry, 2.4 oz • Tropical punch, 0.4 oz • Water, 3 qt

CALORIES 2,700

Age: 45 • Height: 6' • Weight: 205 pounds

Some items were dehydrated when weighed; calories and weights provided by NASA. Almonds and an extra *Clif Bar* floated into picture inadvertently.

The Detroit Lions picked up University of Richmond wide receiver—and chemistry major—Leland Melvin in the 1986 NFL college draft. He was on a fast track to a professional football career, but hamstring injuries soon ended that dream. His love of science proved to be the key to an even loftier future as a NASA astronaut. He didn't grow up dreaming of going into space, he says, but early mentors helped point the way, and today he does the same for others as he addresses children and educators around the country about the importance of science and mathematics. The 45-year-old has been a mission specialist on two shuttle missions to the International Space Station: STS-122 in 2008, and STS-129 in 2009.

LOW EARTH ORBIT • On the Space Shuttle, where six or more astronauts circle the earth for two weeks at a time at 17,000 miles per hour in confined quarters and weightless conditions, organizational systems are essential. The most basic is a color-coding system that personalizes every part of an astronaut's life in space: tools, instruction manuals, food packages, and even the urine receptacles in the toilet. That system, and Velcro, keep order in the house.

Each astronaut has a personal food locker

stocked with his or her food, all in packets that are variously freeze-dried, thermostabilized (processed with heat to prevent spoilage), or what NASA calls "natural" foods because they need no extra treatment to send up, serve, and eat—items like candy, trail mix, granola bars, and jerky.

Certain foods become favorites quickly. "Tortillas are great because you can make a little sandwich from any meat," says Leland. "And peanut butter is great up there. It doesn't fly away from you. It doesn't crumble. It's easy to eat without having to use two hands."

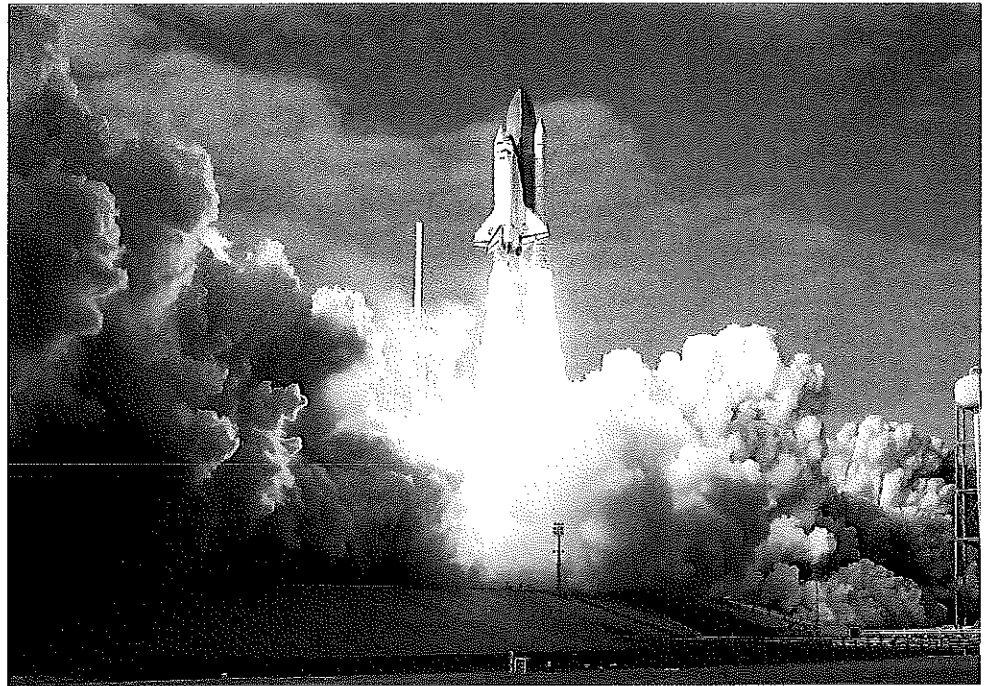
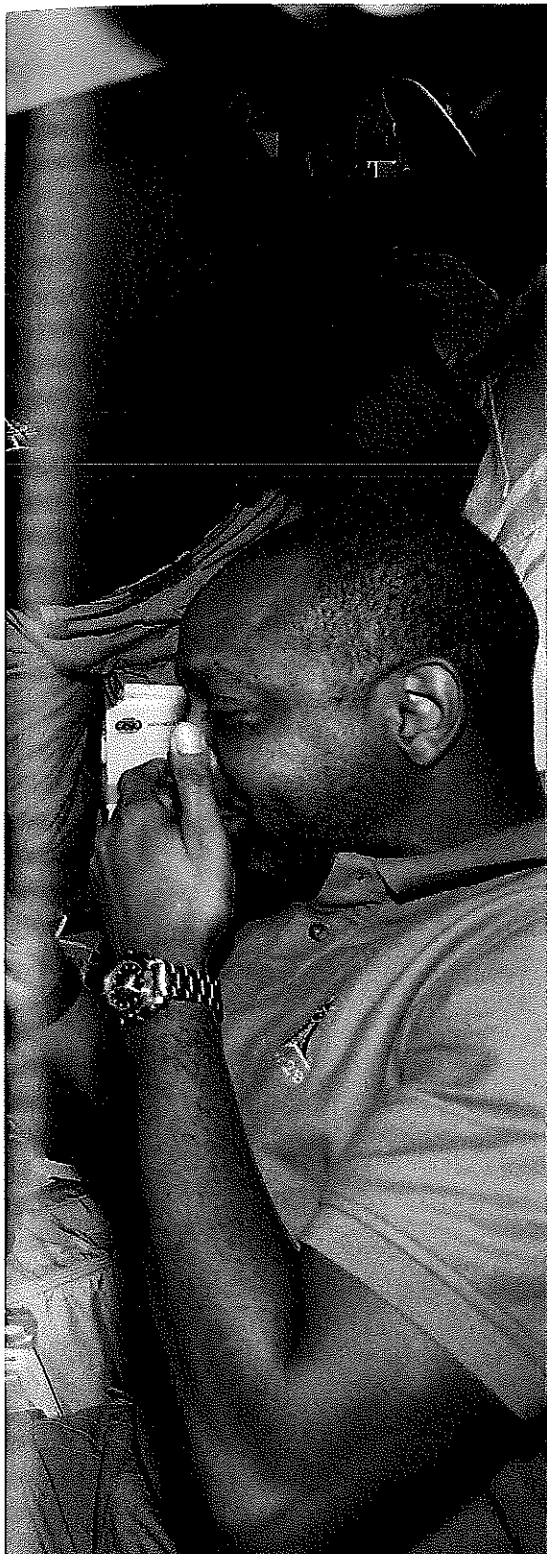
Leland's color-coded spoon is the only eating utensil he needs for everything from scrambled eggs (which he douses with hot sauce) to buttered carrot coins to split pea soup. "If something gets away, you have to float up and catch it with your mouth," he says. "If I momentarily suspend my spoon in midair and someone bumps it, even if it's just a very slight acceleration, it will just meander off and then there's this frantic search for your spoon." Renegade spoons are to be avoided, but there is a backup spoon in his locker if he needs it.

There are other pitfalls, especially for the first-time flyer: "You pop some meat out of a can by accident, or you have corn kernels float away—there are guys that are kind and will bat it back," he says. "The guys that



Leland Melvin, a NASA astronaut, on the flight deck of the Space Shuttle Atlantis with his typical day's worth of food. The early days of space travel were dominated by Tang, Space Food Sticks, and a variety of pastes squeezed from aluminum tubes—all designed to prevent the levitation of liquids and crumbs, which can be hazardous to the equipment. Over the years, space menus have become more palatable, and now astronauts can even enjoy fresh fruits for the first few days of a mission. The challenges of weightlessness extend to photography. Even with three fellow astronauts helping to wrangle Leland's floating food as shuttle commander Charles Hobaugh took the photo, all of the items in Leland's daily fare aren't clearly visible.





aren't will just open their mouths and eat your food"—mealtime humor for a very small club of high flyers. "You learn to be very efficient," he says. "That's rookie food."

Astronauts with downtime will prepare meals for others too busy to heat and eat their own. Do the astronauts eat meals together? "It depends on what you have in your schedule," he says. "If we're supporting a space walk over six hours, I'm pretty much camped out at the robotics work station... I'll bring over portable food and [attach] it to the top of the robotics work station. I can float up every so often and eat a Clif Bar, jerky, or anything that I don't need to use a spoon and two hands to eat."

On STS-129, the shuttle astronauts shared a potluck dinner with the crew on the International Space Station. Everyone brought a taste of home. "That was a glorious day for food," Leland says. "We had these potted calf cheeks—a Russian delicacy—and plum sauce, and we had some crab from the Europeans, and I think we had oysters too." The American astronauts brought meal packets of beef brisket and mashed potatoes with barbecue sauce. "It was a hit with the Russians," says Leland. "It's really tasty."

Not every food item is a rousing success—take beef jerky with peppers. Leland says, "The peppers would float off and you could not only get your eye put out with a pepper, but later when you go to the bathroom... We called it the 'ring of fire,'" he says. "We actually debriefed the food people on that one."



Atlantis lifts off from the Kennedy Space Center (top right) on a mission to rendezvous with the International Space Station. The mission focused on delivering spare components that were staged outside the station during three spacewalks. Bottom right: Leland Melvin, with his feet anchored in loops for stability, retrieves food from his locker in Atlantis galley. At left: A potluck dinner in the galley of the Unity Node of the International Space Station. The crews share a meal of mostly canned treats saved for the occasion: crab, oysters, clams, tuna, mushrooms, and calf cheeks in plum sauce.

2700

USA

Louie Soto The Carpenter's Assistant

ONE DAY'S FOOD

IN MAY

BREAKFAST Eggs (4), 7.6 oz; fried with butter, 1 tbsp • Kraft Cheddar cheese, 1.3 oz • Corn King bacon, 1.4 oz (raw weight) • Coffee with *International Delight* coffee creamer, French vanilla, 1.1 qt

LUNCH Red Baron Singles french bread pizza, three-meat, 5.5 oz

DINNER Steak, 1.3 lb (raw weight); cooked with vegetable oil, 1 tbsp • Wheat bread, 3.8 oz

THROUGHOUT THE DAY Salt, added to each meal, 1.5 tsp • Saladitos (dried, salted plums; not in picture), 1 oz • Mountain Dew, diet (4), 48 fl oz • Sparkletts and Safeway Select bottled water, 1.5 gal

CALORIES 2,700

Age: 30 • Height: 5'9" • Weight: 320 pounds

For centuries, Native American Pima Indians were a self-sufficient farming people with a talent for irrigation in a harsh desert environment. Louie Soto's Pima ancestors farmed in the Gila and Salt River region of what is now Arizona, but the river died with the diversion of water for non-Native development, and they could no longer grow their own food. There was famine, starvation, and, over time, loss of their cultural moorings. Now their traditional subsistence diet has been replaced by foods laden with processed flour, sugar, and lard.

Modern-day Pimas suffer from drastically high rates of obesity and diabetes compared with the larger U.S. population, and also struggle with alcoholism. However, the Gila River Indian Community is now turning to the tools of the modern world to repair the damage through social programs, using funds from the government, casinos, and resorts, along with a plan to regain some of their lost agricultural muscle after winning water rights.

SACATON, ARIZONA • Louie Soto's story reads like a case history for the problems that have plagued Native Americans since Europeans first arrived in the New World, but a closer look reveals a man resolved to change the course of his own personal history.

"I started drinking when I was 14," says

30-year-old Louie. "My parents were split up, and I would go to my dad's house and he would let me drink there. Back then we used to drink forties of King Cobra."

In his early twenties he graduated to a case of forties: twelve 40-ounce bottles of malt liquor over the course of daylong parties. He tapered off as he got older. "Every time I drank, I messed up my cars," he says. His diet was just as out of control as his drinking, and his weight ballooned to a high of 370 pounds.

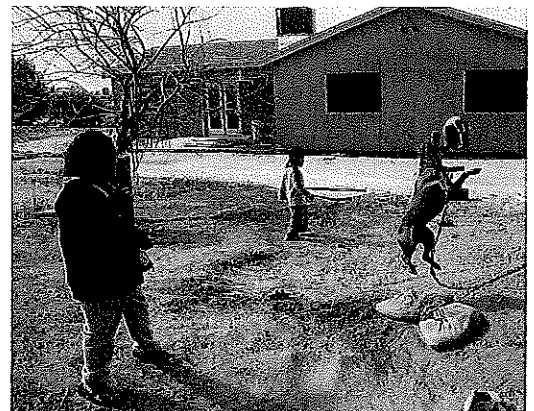
One day, in 2007, "I just made up my mind to stop drinking," Louie says. It wasn't only for his two children and his wife, Jourene: "It was for me." He wanted to avoid the downward spiral of alcoholism he watched his father suffer—a long decline his father is still on today.

In one of those strange twists of circumstance, Louie was diagnosed with type 2 diabetes the week after he quit drinking. (Both sides of his family suffer from the disease.) He felt hopeless and started drinking again, but then fatherhood won out: "When I found out I was diabetic, it hit me kind of hard, but I wanted to see my kids grow up and be there for them—not be in the hospital dying or on dialysis."

Before the diagnosis, his normal breakfast was six fried egg sandwiches with sausage and cheese, and his other meals were

just as extreme. He'd snack on three candy bars and two bags of chips throughout the day, drink Dr. Pepper, Gatorade, and AriZona tea, and then have more chips as an appetizer before dinner.

After his diagnosis, he learned that weight loss was important to help control his diabetes and took nutrition classes in portion control. He switched to diet soda and sugarless candy, and weight training and walking became a regular part of his day. After one year, he had lost 60 pounds. There are plenty of relapses, but he perseveres. Louie and his family didn't eat many vegetables before; do they now? "We tried to start buying them, but it's kind of more expensive so we switched back to 'regular' foods," says Louie. They still rely heavily on frozen pizzas and easy-to-cook items, but his portions are smaller.



Louie Soto, a carpenter's assistant and tattooist, of Pima, Tohono O'odham, Mohawk, Ottawa, and Mexican heritage, in his old home with his typical day's worth of food while dieting. At right: Louie's children and pitbull at their new home, financed by casino profits and built by the Gila River Indian Community.

