

Baker tells NASA memories

BY JESSICA RAPP
Features Editor

The countdown begins. Ten, nine, eight.

Tim Baker, looked expectantly at the data screens in Mission Control Room A in Marshall Space Flight Center, anxiously awaiting lift-off with other engineers.

Seven, six, five, four.

The engineers manning the consoles in Control Room A had their hands in motion, fiddling with the buttons and dials to make sure all was clear.

Three.

Baker, now the assistant director of the physical plant and safety manager at the University, was not just curious about the flight of the Challenger for the obvious reason — that it was another shuttle scheduled to work on the International Space Station. He worked alongside about 25 engineers and technicians who repaired the MPES, or the Mission Peculiar Experiment Support Structure, that would supplement the shuttle with the materials needed for Haley's Comet research.

"I was actually a McDonald Douglas Astronautics Corporation employee but worked in the NASA facilities ... and was a certified console engineer," Baker said. "I actually was not assigned as a console engineer on that Challenger mission. ... I was one of the lead engineers on the next [Astro One] mission that was going to fly after the Challenger. ... What happened was the mission managers took the [MPES project] away from the [original contractors] and they came to us."

In order to properly engage

the MPES, they had to replace the bolts that held the piece together, Baker said. The original bolts had not passed all of the chemical tests in order for them to be considered safe.

"We literally had to work on it 24 hours a day, seven days a week for the last week or so before the Challenger launched," he said. "... It was high enough priority that I was called back to the head of Army Missile Command, and I was given written permission ... to go into any of the tool cribs and storerooms on the arsenal, whether they were owned by NASA or by the Missile Command, to find and procure the titanium bolts that I needed to put the thing together."

Two.

Watching the mission also had special meaning for Baker. During his work as an engineer at the Mission Control Center in Marshall Space Flight Center, Baker met most of the Challenger crew, except for the teacher, Christa McAuliffe.

"I was good friends with four of them," he said. "In fact, I had eaten lunch with Judy Resnik and Ron McNair the Thursday before the Challenger launched on Monday. I [also] knew Greg Jarvis real well. ... I can remember when he was filling out his applications to get into the astronaut program. I knew Ellis Onizuka — I had worked on a mission with him. I did not know [the pilot and com-



mander that well], but I had sat in on meetings with them."

One.

The air outside Kennedy Space Flight Center was brisk. The Challenger mission was the first that NASA attempted in 30-degree weather, but despite a protest from the Marshall engineers, it continued the mission on the government's orders, he said.

"There was extreme pressure [on] NASA to maintain the launch schedule, ... so that we could maintain this program as intended," he said. Lift-off.

The shuttle launched. Standing behind the EPDS (Experiment Power Distribution System), CDMS (Command and Data Management Systems) and Life Support Systems consoles, Baker gazed at the giant screen as the Challenger propelled through the air. After a successful first minute of the launch, Baker headed for the door toward the other control room to talk with an engineer.

"About the time the door got shut and the guy walked up to me, I heard, 'What the hell?'" he said. "And I turned, and I looked through the door, and I saw the big

cloud, and I saw the solid rocket boosters coming out of the cloud. And I went through the door, and there was one of my coworkers standing there. ... He was leaned up against the back wall, and I said, 'What happened?' and he said, 'It blew up.' And I said, 'No way,' and he said, 'It blew up.'"

As the shattered pieces fell from the sky, Houston's mission control tracked exactly where they landed in the Gulf Stream, Baker said. The ship was designed so that the part of the shuttle containing the astronauts was the strongest, and they later found it intact.

"My brother-in-law was one of the engineers who was involved in the effort trying to recover as many parts of the Challenger they could find ... and try to reassemble it ... in the big hangars up there ... to try to determine what came apart, where the explosion came from," he said. "[The crew] had a checklist of procedures that the [astronauts] had to go through to safe-out the circuits. What's absolutely amazing was that when they recovered the shuttle, those checklists had been completed ... which means the crew had been alive the entire [time] after the explosion [before the shuttle hit the water.]"

For the next several months, investigations ensued to pinpoint the blame for the Challenger explosion. Reasons for it had been said to include a misjudgment in how the temperature would af-



Erin Givarz/Index
Assistant Director of the Physical Plant and former NASA employee Tim Baker worked on Mission Control in the Marshall Space Flight Center during the 1986 Challenger launch.

fect the shuttle, high wind shear forces, the fact that the O-Rings didn't sink properly, the delay caused by the MPES device that Baker helped design or a combination of all these factors, he said.

"Everything that we had done pertaining to the mission was suddenly under unbelievable scrutiny," Baker said. "All of us that were there in [Control Room A] — especially those who had direct responsibility with the mission — were all briefed and we were ... told not to talk to anybody."

At the end of the investiga-

tion, they found that the company that made the original bolts had falsified papers that had claimed the bolts were safe. The president and the man in charge of quality assurance for the company were arrested.

Baker continued his residence at NASA for one more year and left government work in 1993. Now, he speaks to high school students at Joseph Baldwin Academy about his experience.

"It was just absolutely, unbelievable, crushing horror, grief and sadness to see that happen," he said.



Lauren Miller
sex and the ville

My favorite adjective is "ballzy."

One of my best friends created it back in high school, and he used it incessantly whenever someone did some-

Risk-taking raises question: "Why not?"

thing that "required the use of balls in any high-risk, high-danger situation."

I'm adding the "z" for effect, just to be fair to John.

During Winter Break, our other friend Mark explained how he finally told his secret crush that he liked her. He was high on life thanks to a bottle of Jack, and he walked up to her at some party, grabbed her elbow and straight up said, "I think you are most wonderful, gorgeous person on this campus. And I've thought it since freshman year."

She promptly shot him down. He promptly started on another bottle of Jack.

"That was ballzy, man. Seriously ballzy," was John's response.

"What in the world made

you decide to finally tell her that?" was my question. Mark had been talking about this girl, inserting her casually in conversation, since his first day of college. She was "super fine."

Mark said it was the Jack. But Mark drinks a bottle of Jack on a fairly regular basis. He sees his secret crush on a fairly regular basis. I know that "super fine" is code for "could really like her beyond just another one-night stand."

So why choose to tell her at that moment?

Later he told me, once John was gone and he could be less macho and manly, that he had heard some story about a guy applying to Harvard. His essay prompt had simply been the question "Why?" Everyone wrote pages and pages about

humanity's purpose, philosophical theories about existence and why they choose Harvard. And then some guy just writes "Why not?"

And he got into Harvard. "I mean, Lauren, that's ballzy."

At this point, Mark looked like a little child who was just dying to tell me about his day at school. It was as if he was on the brink of answering "Why?" for himself, maybe for all of humanity.

He continued to explain that he started to think about the dichotomy of "Why?" and "Why not?"

This is why Mark goes to Duke. He thinks about these things when hanging out with friends and a bottle of Jack.

Anyway, he decided that in

life you have to ask yourself "Why?" and then ask yourself "Why not?" They are so intricately intertwined that any decision requires both questions. So when dealing with his secret crush he asked, "Why tell her?"

The obvious answer was to put it all out there. Basically let her know that he exists and would like to be considered an option, whether it be boyfriend or boy toy. Let her take it or leave it. Get it off his mind. Pay her a little compliment and hope to get one in return. Play the game.

And then, "Why not?" He couldn't think of one reason not to tell her.

He argued that inaction would be the only surefire way to avoid rejection. And

inaction's only outcome was rejection. So rejection was not a viable reason.

His logic clearly was under the influence, both then and when retelling it to me.

But I liked it. In a high-risk situation, ask "Why?" and then "Why not?" It's so simple.

More likely than not, especially since the fear or rejection does not exist in this equation, the reasons "Why" will greatly outweigh the reasons "Why not."

The question "Why not?" then turns into the answer "Why not." It becomes a statement of purpose. And with that revelation, and perhaps with the help of some Jack, being "ballzy" is actually quite easy.

Food Guide Pyramid offers advice for healthy eating

Low-carb? Low-fat? With all the diet choices on the market today, it sometimes can be difficult to decide what to eat. March is National Nutrition Month, and it's the perfect time to evaluate good and poor food choices.

The Food Guide Pyramid is a guide created to help people know what and how much to eat every day. It recommends:

- Bread, cereal, rice and pasta: six to 11 servings,
- Vegetables: three to five servings,
- Fruits: two to four servings,
- Milk, yogurt and cheese: two to three servings,

- Meat, poultry, fish, dry beans eggs and nuts: two to three servings,
- Fats, oils and sweets: use sparingly.

Servings can be difficult to understand. For the grains category, a serving consists of one slice of bread, one cup of ready-to-eat cereal or one-half cup of cooked cereal, rice or pasta. A vegetable serving is one cup of raw, leafy vegetables, one-half cup of cooked or raw vegetables (that are not leafy) or three-fourths cup of vegetable juice. Fruit servings constitute one medium apple, banana, orange or pear, one-half cup chopped, cooked

or canned fruit or three-fourths cup of fruit juice. For milk, yogurt and cheese, a serving is one cup of milk or yogurt, one-and-a-half ounces of natural cheese (cheddar) or two ounces of processed cheese (American). A meat group serving includes two to three ounces of lean meat, poultry or fish.

Food labels sometimes can mislead a person when evaluating serving sizes. Often food labels give serving sizes that are larger than what the food pyramid recommends.

Eating a variety of grains, especially whole grains, combined with fruits and vegetables is important.



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with Sandy Dreyer, Registered Dietician

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Grains provide vitamins, minerals, carbohydrates (starch and dietary fiber) and other substances that are beneficial for good health. Grains also are low in fat unless fat is added when the grains are processed. The high fiber in grains also helps people to feel fuller after eating them. It is best to obtain fiber from whole grains, fruits and vegetables instead of through supplements.

Fruits and vegetables also are an important part of a daily diet because they can prevent many chronic diseases and promote healthy bowel function. They also provide essen-

tial vitamins and minerals. Different kinds of fruits and vegetables provide different vitamins and minerals, so eating a large variety is beneficial. For instance, bananas and kiwi fruit are a good source of potassium, and citrus fruits, broccoli and leafy greens are rich in vitamin C. Any form of vegetables — fresh, frozen, canned, dried and even juices — provides nutrition. It is important, however, to be aware of the sugar content.

A nutritious diet will improve your overall general health. Become familiar with the Food Guide Pyramid and choose wisely.

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