

first CONTACT

How do you reconcile the enthusiasm that kids have for science with the blasé attitudes of adults?

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Rocks fall into our atmosphere all the time, six an hour on average, and these are just the ones you can see with an unaided eye. Most do not survive the journey; they burn up long before they ever hit the Earth's surface. Thirteen thousand years ago, a rock struck Antarctica; nobody noticed. Now, millennia later, it has become the focus of scientists' inquiry around the world.

This rock is known as Allan Hills 84001. Having gone through the normal process of falling into our atmosphere, it endured the voyage and hit the earth, making it even rarer. Upon impact, having had a greater chance of hitting water and remaining hidden, it had the good grace to hit land. Then, finally, to put the icing on this increasingly unusual cake, scientists determined the rock's origin to be Mars.

Unbeknownst to this now-famous rock, it has changed the way thousands of people — probably many more — think about life and the evolution of nature. Since I am writing this, however, I'll stick to the effects it had on me. I will never forget the summer of 1996. I was there to see history being made.

Making Discoveries

During part of that summer, while on an extended visit with my aunt in the Washington, D.C. area, I volunteered at the Smithsonian National Air and Space Museum. While there, I worked in two different departments: the education department and the astrophysics lab. My first job was with the education department's summer day-camp program.

Every summer the Smithsonian holds three one-week day camps. There is a different theme every summer. This summer's theme happened to be "The Forces of Flight." Barbara Zooker, my supervisor at the camp, found out that I liked airplanes and understood the dynamics of flight; she had me help with the last camp of the summer.

I really enjoyed being a counselor for 35 hyperactive, imaginative preteens. They

ranged in age from 9 to 12 — old enough to understand some of the principles, but not so old that they had lost the excitement of learning. It was a good feeling to know that I touched a few lives, not to mention that I learned more than I taught, since you never fully understand anything until you teach it to someone else.

As I watched the Smithsonian campers do some of the experiments we had set up for them, I was amazed at how interested they were. These kids wanted to know how and why the demonstrations worked. During the explanations, there was the normal quiet murmuring of children that couldn't keep still, but that quickly gave way to exclamations such as "cool!" and "awesome!" The enthusiasm they showed rekindled my own.

I remember when I was 13, just three and a half years ago, when I met Don McCarthy, director of the University of Arizona's annual astronomy camp [see "The Children of the Blue Marble," p. 10]. He took the time to teach me and the 20 other campers some of the things he knew; he introduced me to my favorite hobby, astronomy. Similarly, I hope that some of the kids in the Smithsonian's camp will remember, maybe not me personally, but what they learned there. It would be nice if they enjoyed the camp enough that some of them pursued their newly found interest in the sciences.

Down in the Basement

The second job I had was in the astrophysics lab in the basement of the Air and Space Museum. The astrophysics lab was directly under the main gallery, but it had very thick walls, so the noise from all the visitors above didn't bother us. I had a desk and computer right next to the door. My job was to copy a computer program onto disks and to run errands for Jenny Herbst, Jeff Goldstein, and some of the other people that worked there.

I met several interns at the Smithsonian who were from neighboring colleges and who shared some of the same interests that

I had. Although I was a sophomore in high school, it was interesting to talk to them about astronomy, their pet projects, what they had been doing at the lab, and how they got to be working there.

On my second-to-last day at the Smithsonian, I walked into the lab and began working as I normally did. Then one of the interns, in passing, said he had heard that some scientists thought they had evidence of life on Mars. At first I thought it was a joke. I brushed it off until Jenny came in and said the same thing. I was flabbergasted! Here was one of the biggest scientific discoveries of all time, and the people at the lab were treating it as an everyday occurrence. When Jeff came in, he showed some of the enthusiasm that I was feeling and had expected from everyone else.

I was talking to Charles Fraiser, one of the interns right out of high school. He was totally unamazed. He said, "Life on Mars is not noteworthy." He thought that I had gone mad, being so excited about this discovery. "Life is everywhere," he said. "Life could arise anywhere. I wouldn't be surprised if they found life on Pluto." I told Charles he was way off base. I couldn't believe his nonchalant attitude. This discovery was big news to me. I believe that it takes very special circumstances to create life. I guess you could say that I was just a little skeptical about it. I wasn't the only one, though. I met several people that had the "prove-it" attitude.

Jeff told us that we could go to the briefing at NASA headquarters the next day if we wished. I was the first one to hear him, so I told everyone else. They all wanted to go, so the next day, my last day, we left the museum and headed to NASA headquarters, a few blocks away. The press briefing was scheduled for 1 o'clock. We left at noon with the hope of getting into the actual briefing room. By the time we got there, it was near 12:15 and the briefing room was totally packed: reporters and VIPs only.

Jeff asked around and found out that we could wait in the NASA library, a mere 40 meters (130 feet) from the actual briefing

room. The doors into the conference room were continually opening and closing. Occasionally I got to glimpse some of the people who were in there — not only the researchers themselves, but also Dan Goldin, the director of NASA.

Where'd That Come From?

I took the liberty of asking Charles, "If life on Mars is not news, why are there so many reporters covering this briefing?" He just shrugged. When we got into the library, we turned on the TV to the NASA station and waited. One o'clock rolled around and the briefing didn't come on — they were having technical difficulties.

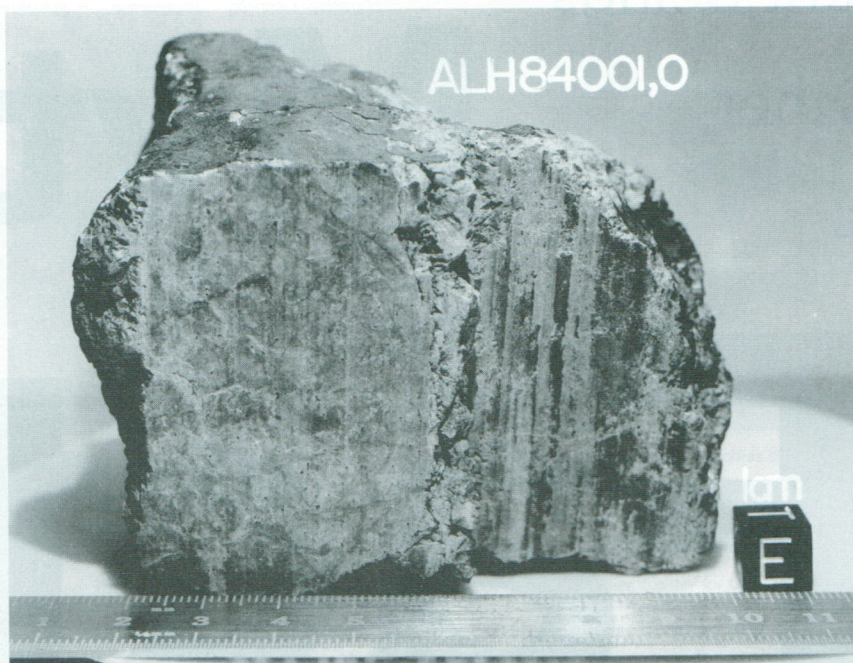
Around 1:30, the president made his appearance. This, by the way, was the first time a U.S. president made an announcement about a scientific discovery. Clinton gave his speech and made everyone feel that, had we not been busy with our own work, we could have done this research ourselves. This was an achievement, the president said, for all Americans to be proud of.

After his speech, Clinton asked the press whether they had any questions about the discovery. The first question a reporter asked was, "What are your views on abortion?" Clinton gave a "where-did-that-come-from" look, but then he began to answer. Here was the president of the United States giving a press conference on the possibility of evidence of life on Mars, and some reporter asked him about abortion! I don't know what happened, whether he answered the question, because the camera cut to the NASA briefing.

The explanation of the scientists' findings sounded plausible. At least the researchers made a believer out of me, though I am no expert on the subject. After the briefing I talked to people about their views.

I was amazed at how many different views people had on this one subject. My aunt was astounded. She thought I was just messing with her. Once I convinced her that the discovery was real, she said she thought it would be neat if it were true. I heard many different opinions ranging from, "Of course it's true. There is life everywhere," to, "It couldn't be true. It's got to be false data," and the occasional, "Huh? What are you talking about?"

That last response was the worst one for me to hear. How could someone not have heard about it? CNN and all the other major networks were blaring the news from coast to coast. The president himself had



The very living rock. This craggy rock, the size of a potato, comes from Mars. That much, scientists agree on. But does it contain fossil bacteria? Photo courtesy of NASA Johnson Space Center

made a public statement about it! How could anyone miss it? It scared me that some people could be that oblivious to the things around them. Here was evidence that life could have originated on Mars, and some people did not even have one clue.

Upon This Rock We Will Build

The possibilities are mind-boggling. From a simple mathematical point of view, out of nine planets in our solar system — if there really was life on Mars — two have contained life. Out of those two, one had sentient life. Work it out, and 11 percent of all planets could be inhabited by intelligent beings.

It is astonishing to think that, out of the nearest 100 planets, 11 could be inhabited by intelligent beings. This is purely theoretical, of course, and true only for our own solar system for sure, but it is still an awesome prospect.

The way people think about life in the universe always changes whenever new factors enter the equation. For example, has the public ever considered the possibility that life was seeded here on Earth from Mars, maybe even from a rock very similar to ALH84001? Or what about the possibility that other, similar rocks might be found which originated from planets outside our solar system? Was Earth's inhabitation a cosmic accident?

The discovery raises questions such as, "Are we alone in the universe?" If we aren't, other questions arise, such as, "How do we go about getting the attention of other life forms, or even finding them?" Who knows?

Maybe we are still the only ones out there. I hope not.

Like all major scientific discoveries, the Mars rock creates more areas that need to be researched and asks more questions than it answers. Maybe you will answer those questions — or maybe it will be me. Only one thing is certain: Those answers will themselves lead to even more questions and the need for even more research. *m*

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For more information on the martian meteorite and its significance, see Editorial, September/October 1996, p. 2 and "Life on Mars... and in Science," January/February, p. 24.

Editor's note: St. Clair was among the last interns ever to work in the Air and Space Museum's astrophysics lab. On Sept. 12, 1996, the museum director closed the lab — a move that many scientists saw as political tit-for-tat. The lab had been founded by the former director, astrophysicist Martin Harwit, who resigned in 1995 amidst controversy over the museum's *Enola Gay* exhibit.