

CHAPTER

1

Section 1

PRIMARY SOURCE *from Lucy: The Beginnings of Humankind*

In the following excerpt, American paleoanthropologist Donald Johanson describes how he and his colleague Tom Gray found the fossils of a 3.5 million-year-old hominid they nicknamed "Lucy." As you read, consider how the scientists feel about their discovery.

On the morning of November 30, 1974, I woke, as I usually do on a field expedition, at day-break. I was in Ethiopia, camped on the edge of a small muddy river, the Awash, at a place called Hadar, about a hundred miles northeast of Addis Ababa. I had been there for several weeks, acting as coleader of a group of scientists looking for fossils.

... It was still relatively cool, not more than 80 degrees. The air had the unmistakable crystalline smell of early morning on the desert, faintly touched with the smoke of cooking fires. Some of the Afar tribesmen who worked for the expedition had brought their families with them, and there was a small compound of dome-shaped huts made of sticks and grass mats about two hundred yards from the main camp. ...

Tom Gray joined me for coffee. Tom was an American graduate student who had come out to Hadar to study the fossil animals and plants of the region, to reconstruct as accurately as possible the kinds and frequencies and relationships of what had lived there at various times in the remote past and what the climate had been like. My own target—the reason for our expedition—was hominid fossils: the bones of extinct human ancestors and their close relatives. I was interested in the evidence for human evolution. But to understand that, to interpret any hominid fossils we might find, we had to have the supporting work of other specialists like Tom.

"So, what's up for today?" I asked.

Tom said he was busy marking fossil sites on a map.

"When are you going to mark in Locality 162?"

"I'm not sure where 162 is," he said.

"Then I guess I'll have to show you." I wasn't eager to go out with Gray that morning. I had a tremendous amount of work to catch up on. ... I should have stayed in camp that morning—but I didn't. I felt a strong subconscious urge to go with

Tom, and I obeyed it. I wrote a note to myself in my daily diary: Nov. 30, 1974. To Locality 162 with Gray in A.M. Feel good.

As a paleoanthropologist—one who studies the fossils of human ancestors—I am superstitious. Many of us are, because the work we do depends a great deal on luck. The fossils we study are extremely rare, and quite a few distinguished paleoanthropologists have gone a lifetime without finding a single one. I am one of the more fortunate. This was only my third year in the field at Hadar, and I had already found several. I know I am lucky, and I don't try to hide it. That is why I wrote "feel good" in my diary.

... Gray and I got into one of the expedition's four Land-Rovers and slowly jounced our way to Locality 162. ... Although the spot we were headed for was only about four miles from camp, it took us half an hour to get there because of the rough terrain. When we arrived it was already beginning to get hot. ...

Gray and I parked the Land-Rover on the slope of [a gully.] We were careful to face it in such a way that the canvas water bag that was hanging from the side mirror was in the shade. Gray plotted the locality on the map. Then we got out and began doing what most members of the expedition spent a great deal of their time doing: we began surveying, walking slowly about, looking for exposed fossils.

Some people are good at finding fossils. Others are hopelessly bad at it. It's a matter of practice, of training your eye to see what you need to see. I will never be as good as some of the Afar people. They spend all their time wandering around in the rocks and sand. They have to be sharp-eyed; their lives depend on it. Anything the least bit unusual they notice. ...

Tom and I surveyed for a couple of hours. It was now close to noon, and the temperature was approaching 110. We hadn't found much. ...

We collected a couple of pieces of jaw, marked the spot exactly and got into the blistering Land-Rover for the run back to camp. On the way we picked up two expedition geologists who were loaded down with rock samples they had been gathering.

"Something big," Gray kept saying to them. "Something big. Something big."

"Cool it," I said.

But about a quarter of a mile from camp, Gray could not cool it. He pressed his thumb on the Land-Rover's horn, and the long blast brought a scurry of scientists who had been bathing in the river. "We've got it," he yelled. "... We've got it. We've got The Whole Thing!"

That afternoon everyone in camp was at the gully, sectioning off the site and preparing for a massive collecting job that ultimately took three weeks. When it was done, we had recovered several hundred pieces of bone (many of them fragments) representing about forty percent of the skeleton of a single individual. Tom's and my original hunch had been right. There was no bone duplication. But a single individual of what? On preliminary examination it was very hard to say, for nothing quite like it had ever been discovered. The camp was rocking with excitement. That first night we never went to bed at all. We talked and talked. We drank beer after beer. There was a tape recorder in the camp, and a tape of the Beatles song "Lucy in the Sky with Diamonds" went belting out into the night sky, and was played at full volume over and over again out of sheer exuberance. At some point during that unforgettable evening—I no longer remember exactly when—the new fossil picked up the name of Lucy, and has been so known ever since, although its proper name—its acquisition number in the Hadar collection—is AL 288-1.

from Donald C. Johanson and Maitland A. Edey, *Lucy: The Beginnings of Humankind* (New York: Simon and Schuster, 1981), 13-18.

Discussion Questions

1. **Summarizing** Where did Johanson and Gray find Lucy?
2. **Making Inferences** Why do you think Johanson and Gray felt that they had discovered "something big"?
3. **Drawing Conclusions** What important clues do you think fossils like Lucy provide about the past?

"I've had it," said Tom. "When do we head back to camp?"

"Right now. But let's go back this way and survey the bottom of that little gully over there." The gully in question was just over the crest of the rise where we had been working all morning. It had been thoroughly checked out at least twice before by other workers, who had found nothing interesting. Nevertheless, conscious of the "lucky" feeling that had been with me since I woke, I decided to make that small final detour. There was virtually no bone in the gully. But as we turned to leave, I noticed something lying on the ground partway up the slope.

"That's a bit of a hominid arm," I said.

"Can't be. It's too small. Has to be a monkey of some kind."

We knelt to examine it.

"Much too small," said Gray again.

I shook my head. "Hominid."

"What makes you so sure?" he said.

"That piece right next to your hand. That's hominid too."

... He picked it up. It was the back of a small skull. A few feet away was part of a femur: a thigh-bone. ... We stood up, and began to see other bits of bone on the slope: a couple of vertebrae, part of a pelvis—all of them hominid. An unbelievable, impermissible thought flickered through my mind. Suppose all these fitted together? Could they be parts of a single, extremely primitive skeleton? No such skeleton had ever been found—anywhere.

"Look at that," said Gray. "Ribs."

A single individual?

"I can't believe it," I said. "I just can't believe it." "By God, you'd better believe it!" shouted Gray. "Here it is. Right here!" His voice went up into a howl. I joined him. In that 110-degree heat we began jumping up and down. With nobody to share our feelings, we hugged each other, sweaty and smelly, howling and hugging in the heat-shimmering gravel. ...

"We've got to stop jumping around," I finally said. "We may step on something. Also, we've got to make sure."

"Aren't you sure ... ?"

"I mean, suppose we find two left legs. There may be several individuals here, all mixed up. Let's play it cool until we can come back and make absolutely sure that it all fits together."