

## PROLOGUE

On a sultry day in August 2005, I traveled from Beijing to Zhoukoudian (“Chou Kou Tien”), a village in the hilly countryside about thirty miles southwest of the Chinese capital. I was retracing the journey made by a French Jesuit priest whose investigations of the relation between science and faith, as well as his infelicitous standing with his own church, brought him to this remote location in the Western Hills more than eighty years ago.

In 1923, Father Pierre Teilhard de Chardin arrived in China as an exile by the order of his superiors in the Jesuit hierarchy in Rome. His transgressions included questioning the doctrine of original sin and supporting Darwin’s theory of evolution. Teilhard was a philosopher, theologian, geologist, and highly gifted paleontologist, and in his lifetime he made remarkable contributions to the theory of human evolution. But he paid dearly for his great achievements: Throughout his life, he was under relentless attacks by the Catholic Church for his unorthodox views, had to live for decades far from his beloved Paris, and his intermittent trips home to France and the public lectures he gave while in Europe were always under tight scrutiny by his Order and the Vatican. He was continually denied permission to publish his books, and these seminal contributions to philosophy and religion appeared in print—to great acclaim—only after his death.

But despite these unusually harsh censures and the extreme intellectual and psychological hardships he suffered, Teilhard never gave up his struggle to integrate science and religion, nor did he ever seriously consider leaving the Society of Jesus. He endured

every reprimand, every punishment, every insult, and took in stride censorship, intolerance of his views by religious authorities, and years of exile with total obedience to his church.

And as fate would have it, in 1929, in China—that remote country to which the Jesuits had banished him to suppress the dissemination of his views on evolution—Teilhard became a crucial player in one of the most important discoveries in modern anthropology, and one that provided us with invaluable evidence for the theory Charles Darwin had published exactly seventy years earlier. This great discovery was the unearthing of the skeletal remains of Peking Man. Far from making Teilhard ineffective in promoting evolution, the church had inadvertently sent him to the one place where he could make the greatest contribution to proving the descent of man.

The momentous discovery of Peking Man took place at the site to which I was now headed, alone but for a driver who spoke no English and stared at me sympathetically as I struggled to communicate. “Why is the traffic so bad? Has there been an accident?” I asked, striking one hand against the other to indicate a car crash. The driver laughed, but said nothing, his eyes focused intently on the road ahead. The heat and congestion of the city made me wonder what Teilhard felt when he arrived here decades ago after a month-long voyage from Marseille. This was well before the modern Chinese changed the Latin spelling of the name of their capital from Peking to Beijing, before construction of the two giant highways that now encircle the city, before cars had largely replaced the

traditional rickshaws and bicycles, before the sky was darkened by industrial haze and pollution.

Teilhard was highly educated, with a doctorate in paleontology from the Sorbonne in addition to his religious training, spirited, worldly, and urbane. Before coming to China, he had studied philosophy, literature, and science in France, taught physics in Egypt, and—because the anti-clerical laws of 1901 forced the Jesuits to leave France—was ordained a priest in Hastings, England. He had survived World War I, saving lives in the trenches as a stretcher-bearer in some of the most horrific battles of the war, and at war's end was awarded medals for his bravery by the French government.

Still, it was something of a shock to arrive alone in China in 1923, and find himself in an isolated, far-off land. Only the coastal Chinese were accustomed to Western faces, and I wondered how Teilhard coped with the enormous cultural differences between China and the world he knew. I recalled one of the yellowing photographs of Teilhard I had seen, taken sometime in the late 1920s, showing him standing within a group of Chinese and Western colleagues, dapper in a neatly pressed khaki field jacket—not the black Jesuit cassock, which he wore only occasionally in Asia. He looked content, confident—perhaps even relieved to be away from Europe and the controversy that surrounded him everywhere he went on that continent.

Finally having inched our way out of Beijing, we found ourselves driving southwest on a two-lane country highway. We passed wide, cultivated fields and factories with

billowing smokestacks. This was modern China: the ancient and the new side by side, without a wasted square inch. The driver pressed hard on the gas, pulling up directly behind the car in front of us until the other driver changed lanes. My back ached from the stop-and-go traffic, but there was no use fumbling for the seatbelt—they do not exist in Chinese cabs.

After an hour, we turned off the main highway and onto a bumpy dirt road. This felt worlds away from the dazzling modernity of Beijing. As we passed increasingly rural villages, I saw fewer cars, and the people rode bicycles and wore simple clothing. At the road's end, the driver stopped, opened the door, and said “Zhoukoudian.” He lit a cigarette while waiting for me to come out. My translator back at the hotel had assured me the driver would wait for me here.

I emerged to see a green hill, three hundred feet high, steep and densely overgrown with vegetation. This was the legendary Dragon Bone Hill. It was named so for its abundant supply of fossilized animal remains—“dragon bones” to the rural Chinese. The hills here are made up of limestone and chalk, a geological formation especially favorable to the preservation of skeletons of prehistoric animals—and human ancestors. Nevertheless, the local people still believe it to be a mystical spot where dragons come to die; some of the more superstitious refuse to venture up the hill at night.

By day, however, until the government banned the practice decades ago, people combed the hill with shovels and pickaxes in search of bones to sell on the medicinal market.

Dragons have long been a symbol of strength and vitality in Chinese culture, and their bones were said to hold great curative powers and were valuable commodities. Chinese apothecaries often paid substantial sums for these “dragon bones,” which were then ground into fine powders and sold as cures for a variety of ailments from skin rashes to insomnia to impotence.

Dragon Bone Hill is now an unassuming spot, and, I gathered, few tourists had ventured here in recent years. The fresh forest air, smelling of pine, was invigorating, and I took a deep breath and looked around me. The hill I was facing was situated northwest of the village of Zhoukoudian, across the Zhoukou River from us. But it was so quiet and green here that it seemed miles away from civilization. It was late afternoon, and I could see the sun on my right slowly descending as I faced the hill. I shouldered my backpack and started uphill from the parking area on a path leading straight up, surrounded by a forest of small trees and shrubs. It was eerily quiet. There was not a person in sight; even my driver had disappeared. As I climbed higher, a chorus of crickets and birds greeted me as the trees closed around me.

Halfway up the hill, I encountered an old sign in Chinese and English, directing me to the “Peking Man Site.” I turned and worked my way down, climbing over fallen tree trunks, thick bushes, and ferns. The sound of the crickets was now nearly deafening. Suddenly I reached a cave, and a set of broken stairs leading down to its bottom. I cautiously edged my way down the steps, gripping the limestone walls for balance. I was now inside a cave located halfway up the hill. The roof of the cave was open on two sides, and

through these openings the sun's rays entered, providing enough natural light by which to see. It took me a few moments to orient myself. And then I saw it. Among the ferns and seedlings that seemed to grow out of the sheer rock face, I could make out faint markings in Chinese characters. From the chart and the old photographs I had brought with me, I recognized the rock surface of the cave wall. I was now standing at the exact spot where, on a snowy December 2, 1929, just as the last rays of the setting sun were gently warming the frozen earth, a group of diggers led by the young Chinese paleontologist Wenzhong Pei pulled out the first skull of *Homo erectus* from the rubble at the farthest corner of the cave. This was the fossilized skull of Peking Man, still ensconced in thick clay.

Just a few years earlier, a high-powered international team of scientists, including leading anthropologists, geologists, paleontologists, and anatomists had begun to come together here with the purpose of exploring Dragon Bone Hill in search of fossils of human ancestors. This group ultimately included the Swedish geologist Johan Gunnar Andersson, the renowned German Jewish doctor and anthropologist Franz Weidenreich, the tireless and gifted Canadian anatomist Davidson Black, and the cleric Pierre Teilhard de Chardin.

It took more than five years of intensive, sometimes discouraging work to uncover the first skull. Pictures of Dragon Bone Hill taken in the 1920s show a sprawling, dusty excavation complex, empty of trees and plants, extensively dug up to uncover ancient

fossils. (A fossil is what a bone becomes after the organic matter inside it gives way to rock-like matter over the course of many thousands of years.)

The skull was the pinnacle of success of this large-scale project. Within a year of this discovery, proving that human ancestors had lived here, Teilhard and his colleagues demonstrated that the cave's inhabitants made tools and fire: in short, they appeared to be the link between man and ape able to fashion tools from rocks, hunt with these implements, cook their food, and master their living environment by using fire for heat. The years that followed saw a wealth of further discoveries of skulls, bones, and tools, until the remains of an entire prehistoric community of forty individuals were assembled and studied. The relics of Peking Man—the hominid (member of the family *hominidae* of humans and their ancestors) this collection of fossils was said to represent—were an invaluable boon to science. The analysis of these fossils provided strong evidence for evolution, and Peking Man emerged as a key example of *Homo erectus* (“Upright-walking Man”)—the “missing link” between humans and apes.

But Teilhard's church, the Society of Jesus (whose members are called Jesuits), a historically powerful Catholic order founded in the sixteenth century by Saint Ignatius of Loyola (1491-1556) and run as a semi-military religious organization (its head is designated a General), was not prepared to give up the biblical story of man's creation. When the Jesuits learned of Teilhard's involvement in the discovery of Peking Man their assault on his credibility, a loyal member of their order, grew stronger and more

vociferous. Every word Teilhard wrote or said—publicly or even in private—was now suspect and subject to careful scrutiny.

In part to bridge the gap between science and religion, Teilhard proposed his own theory of evolution, and it encompassed elements of faith, physics, and anthropology. It was an amalgam of science and religious belief that attempted to unite the two disciplines in one logical, rational whole. Teilhard held that human evolution was a scientifically proven process that ultimately agreed with scripture and brought us closer to God as we evolve further as a species. He hoped that the Society of Jesus would accept this view of evolution and allow him to lecture about it and publish books. But all of Teilhard's writings were censored by the Jesuits, and permission to publish was repeatedly denied.

His work on Peking Man was an example of science at its best. For until the discovery of Peking Man, a hominid that lived 500,000 years ago, anthropologists had only the findings made by the Dutch anatomist Eugène Dubois in Indonesia in 1891 (a set of fossilized remains of a hominid named Java Man dated to 700,000 years ago) to support their thesis of evolution. And there were also fossils, discovered earlier in the nineteenth century, of the much later Neanderthals, who lived until their abrupt disappearance about 30,000 years ago with the advent of the Cro-Magnons (called "anatomically modern humans" because their skeletal remains are indistinguishable from ours). Java Man had been hailed, at first, as the missing link between humans and apes. But there was no evidence that Java Man could make fire, nor did he have quite the cranial capacity of Peking Man. And the quality of the finds from Java was spottier, the fossils were not as

well preserved, and they represented far fewer individuals than those found at the Peking Man site.

The find at Dragon Bone Hill therefore caused an immediate sensation around the world, dominating newspaper headlines and radio programs. For a brief moment, the world's attention was directed at the most conclusive evidence at the time in support of human ancestry in agreement with Darwin's theory of evolution.

And then, almost overnight, everything was lost. The Japanese, who had occupied parts of China since the beginning of the Sino-Japanese War, consolidated their takeover and extended it over northern China after World War II broke out in 1939. Following this wider occupation of China, and in an effort to keep them from enemy hands, the Peking Man fossils were placed in a sealed room at the Peking Union Medical College. But two years later, in 1941, just as the United States was about to enter World War II and the conflict with the Japanese was threatening to intensify, Chinese authorities feared that the Japanese might well discover the valuable fossils and remove them to Japan.

The Chinese, along with officials of the American Embassy, arranged to transfer the entire collection of Peking Man remains to safety in the United States. The finds were clandestinely packed in two crates, and made ready for shipment by sea to the American Museum of Natural History in New York, there to be kept until the end of the war. But when the crates left the Peking Union Medical College on their way to the ship that was to take them to America, they vanished without a trace. Not a shred of evidence has

surfaced over the intervening six and a half decades to point to what might have happened to this collection. The fate of the Peking Man fossils remains a mystery to this day, and an incalculable loss to science.

The following chapters tell the story of the fantastic discovery of Peking Man. They describe how a determined group of the world's greatest anthropologists, geologists, anatomists and other scientists resolved, against all odds, to find the missing link between humans and apes. This is the story of how these researchers found what they were looking for and provided the key piece of evidence for Darwin's theory of evolution. Their breakthrough then ushered in an age of great discoveries in anthropology, with every decade bringing us closer to the complete tale of human ancestry. This is also the story of Pierre Teilhard de Chardin, an influential member of the international group of experts assembled in 1920s Peking, who courageously fought against the entrenched beliefs and doctrines of his own church in an effort to reconcile scripture with science and to bring us closer to an understanding of who we are, where we came from, and where we are going. But the struggle he began over eight decades ago continues with renewed force today.

I had not realized just how virulently the conflict between Teilhard and his church still endures—half a century after his death—until I went to Rome to research this book. The director of the Jesuit Archives at the Borgo Santo Spirito enclave just outside the Vatican, Father Thomas K. Reddy, saw me in his office on June 27, 2006. This visit had been

arranged months in advance, and I had been led to believe that I would be able to see any document about Teilhard I desired.

At the end of our interview, Father Reddy said, “You know, he was very controversial...I have some material here on Teilhard de Chardin.”

“May I see it?” I asked.

“No,” he responded, “it is confidential.” I drew a sharp breath in surprise, and he added, “But you can see other things...”

Pondering what I had just heard, I proceeded to the archive’s reading room, and ordered the first Teilhard item from the catalog. A short time later, a dusty pile of documents, bound with faded string, was placed on my table. I untied the knot—clearly no one had looked at this collection in many years—and began to examine the contents. These were Teilhard’s manuscripts, which I knew had been typed in China in the 1930s by his intimate friend the American sculptress Lucile Swan, and which he had sent here in hope of gaining the Jesuits’ approval to publish. But as I lifted the untied pile of manuscripts, what looked like a folded letter of several pages fell out.

I picked it up, opened it, and scrutinized the yellowing sheets. What I held in my hands was a curious 10-page document, carefully handwritten in Latin, and dated March 23, 1944. I was engrossed in reading it when I suddenly looked up to see Father Reddy standing right in front of my table and looking at me intently. “What is that?” he demanded, “What is the date?”

I told him.

He turned pale and said: “This is exactly what I didn’t want you to see.”

I knew that in 1925 Teilhard had been forced to sign six confidential propositions demanded by Rome and aimed at curtailing his freedoms of speech and expression, and that these documents were kept locked in a vault somewhere in the city. Teilhard scholars—even those within the Society of Jesuit—have been barred for decades from seeing them. The document now in front of me was dated 1944. What was contained in these pages that the Jesuits considered so important to hide?

In his frustration that I had now inadvertently seen the document, Father Reddy decided to seek an immediate meeting with the Jesuit Father General, Peter-Hans Kolvenbach, to discuss what could be done about my discovery. The Jesuit headquarters, the Curia Generalizia, was next door, at 4 Borgo Santo Spirito, and as Reddy hurriedly left the room, he turned to me and said: “You are a writer: Be careful with what you write. Don’t get us in trouble with the Vatican.”