

Chapter 2: “If there’s a God, why is the world such a mess?”

It was a week later when Xiao Li and Xiao Wang returned to Professor Ho’s office at noontime. Professor Ho greeted them both warmly, poured them each a cup of tea, then sat down facing them across his large desk which was crowded with papers and open books.

“We are interrupting you?” asked Xiao Li politely, seeing the work strewn about.

“Not at all!” protested Professor Ho sincerely. “You’ve come to talk to me about the most important thing in life, and the most important thing *I* ever do is talk to people about it!”

Xiao Li nodded in agreement and understanding. Xiao Wang remained silent.

“I seem to recall—if you’ll pardon my metaphor—that we had filed some chains off,” Professor Ho continued, “but I think, Xiao Wang, that we were still in the materialist prison cell. Have you had a chance to think about it anymore?”

“I thought more about what you said. I did more research, especially about the origin of life and also about the differences between different organisms. I see that you were right that the evolutionary scientists don’t have any good answers. But that doesn’t mean God did it!”

“Well then what do you think it could have come from?”

“I don’t need to worry about that! In any case, I’m here, so I can just live my life as I see fit.”

“Can you? Can you really? If it were really true that we are merely the product of random chance acting on blind natural forces—that’s what atheism means—then what’s the point of life? To survive? But you won’t; you’ll die soon. To leave offspring? But they’ll die soon too; who cares? If you really are just a ‘high level animal,’ then all of your feelings, thoughts and actions are meaningless. But the problem is something inside you is screaming for purpose, for a lasting, transcendent meaning in life.

“Tell me Xiao Wang, what was your grandfather’s grandfather’s first name?”

Xiao Wang thought for a moment, then shook his head. “I have no idea.”

“That’s not surprising. I’ve never known anyone who could answer that question, and I’ve asked dozens of people. You and I will be forgotten just as quickly. After a little while, you will die; a little while after that, everyone will have forgotten you. If materialism is true, you’re here for no reason, and soon you will leave.

“A thought like that crushes our hearts when we honestly face it! The reason that such thoughts pain us so much is that we are in fact God’s creation, and He has placed within us a longing to feel His love and know His transcendence, what the Bible calls His glory. Without that we will always be discontent and unhappy. We have a soul which longs to know it’s Creator.”

Xiao Wang remained silent.

“You seemed to agree a moment ago that there is no naturalistic answer to the origin of life and the basic types of organisms—fish and birds and reptiles and so on. Logically then the cause of these things is *outside* the universe, is supernatural, is transcendent. And that conclusion points us to the hope of meaning in our human lives.”

“I agree—” Xiao Wang hesitated a moment, as if reluctant to say the next words; then he burst out rapidly: “I agree it’s reasonable to believe there’s a Designer—you can call Him a Creator if you like—but now I have all sorts of doubts and questions! I think that you have at least as many problems as the evolutionists!”

Xiao Li was irritated by his companion’s rudeness and gave him a sharp scowl. But Professor Ho’s wrinkled face remained tranquil, and he nodded slightly as he replied, “Mm, indeed! If I were you I’d be asking: If there really is a good and all-powerful God, why is this world such a mess?”

“Exactly! If there is a God, why is there so much pain and suffering in the world? Does He hate us? Assuming He’s even there!”

“Virtually everyone asks that question. Often people seem to think Christians have no answer for it.”

“I certainly can’t see one!”

“In fact, it’s answered on the third page of the Bible. On page three!”

“Well let’s see it then!”

“I’ll be glad to. It’s in Genesis chapter three. But first we have to get past pages one and two—chapters one and two—before we get there. There are a few things that need to be clarified before you can understand the answer.”

“Like what?”

“Above all, where the human race came from. *When* it came matters too, but we can talk about that next time.”

“Do you mean the old ‘Adam and Eve’ story? Do you really believe that? Evolution may have it’s problems, but your creation story is just an old myth! Human beings came from hominoid apes—I don’t know why or how, no one knows, maybe your God evolved them—but we have fossils which show that it happened!”

“Is that so?” queried Professor Ho mildly. “I assure you, Xiao Wang, that I want truth. And I believe that the truth will be rational. I don’t believe in old wives’ tales, and whenever possible I want to see scientific proof for things, just like you do.

“Your textbooks told you that Adam and Eve are a myth. They also told you that lightening bolts blasting into the ocean created life! Obviously the textbooks aren’t always right. What I challenge you to do now is to open your mind and examine the origin of humanity, just like you did the origin of life.”

The Testimony of Natural Science Ape-Men? Or Men and Apes?

“If we didn’t come from the same ancestor as apes, why are we so similar to them?” queried Xiao Wang.

“The differences in anatomy and appearance are obvious,” Professor Ho countered. “So are the behavioral differ-

ences: It’s perfectly obvious that they do not have consciousness like humans.”

“But they can learn language! I heard that they taught a sign language to a chimp.”

Professor Ho shook his head with a slightly disgusted look on his face. “That’s a classic evolutionary fairy tale. It started in the 1970s when grand claims were made about sign language taught to a female chimpanzee named Washoe. She learned to produce over 100 hand signals from American sign language. The anthropologists were thrilled, but the linguists unimpressed. The linguists pointed out that the chimp did not produce language anything like human language. She didn’t have human grammar, and she did little or no ‘productive’ use of the signs she learned—she was essentially unable to make new combinations of words, the way every normal two year old child can and does. The chimp was simply trained to associate certain hand motions with certain objects or activities. That’s not fundamentally different from a lion or bear trained to make certain movements in a circus ring. And it’s much less impressive than a sheep dog!”

“I’ve heard that our genes are almost the same as monkeys.”

“For several decades we were told we were 98% or 99% the same. When they finally did the gene sequencing of the chimpanzee in 2005, the claim changed to closer to 96%. The following year another study claimed 94%. But in fact, all of those number overstate the similarity.”

“How do you know?”

“It’s a known fact that the chimpanzee’s genome is actually quite a bit larger than that of human beings. Estimates I’ve seen range from 6% to 12% larger. None of those differences are taken into account in the ‘greater than 90% similar’ figures we see published. All the extra genomic information in the chimpanzee is simply *ignored* when comparing it to the human genome!

“And that’s not all. Even the part that remains after deducting the extra isn’t really 94% or 96% similar. Those numbers are exaggerated because the process used to do the comparison counts things as identical if they *mostly* line up. When scientists critical of the methodology reexamined the results, they estimated that the real level of human to chimp genetic similarity could not possibly be greater than 87%, and is probably lower than that.”^{1,2,3,4}

“Well in any case, that’s still very close!”

“Is it? Do you know how many actual differences the mere 4% difference claimed by the 2005 study represents?”

“How many?”

“125 million nucleotide differences, organized in a way that would have required at least 40 million mutations. In other words, there are at least 40 million differences, on average, between your genes and those of a chimp! To give you a feeling for how much information that is, 10,000 pages of English text has about 40 million letters and spaces. When we say ‘4% different,’ it doesn’t sound like much. How does it feel when you hear ‘40 million differences?’ And of course, the real number is much higher.”

Xiao Wang was silent for a moment. “You mean the textbook writers and scientist were trying to trick us?”

“Probably not intentionally, at least not most of them. But their preexisting belief in monkeys-to-man evolution biased their interpretation, and it also biased the way they presented the data.”

“That number alone—40 million differences—is enough to prove to me we don’t share a common ancestor with chimps. The evolutionists claim that humans and chimps branched off from some hypothetical common ancestor about six million years ago. If we generously assume only ten years per generation, that would be 600,000 generations. To get 40 million differences in 600,000 generations you would have to fix an average of 67 genetic changes per generation throughout the entire genomes of the two populations. If they were split evenly between the ‘evolving into humans’ group and the ‘evolving into chimps’ group, that would be an average of 33.5 mutations fixed *every* generation in the *entire* population of each group. That’s impossible of course; mutations can’t spread through an entire population in a single generation. In the middle 20th century, the famous population geneticist J.S.B. Haldane calculated that, under ideal conditions in a population of only ten thousand members, it would require an average of 300 generations to spread a single mutational change throughout the entire population.^{5, A} Starting from a common ancestor, you simply could not have gotten 40 million differences between humans and chimps in six million years.

“Superficial genetic similarity does not prove close relationship; about half of your genes are the same as those of a banana! An interesting recent example is the finding that the genome of horses is apparently more similar to that of bats than it is to cows!⁶ Obviously horses are far more similar physically and behaviorally than to cows than to bats—but the evolutionary scientists, using the generally accepted methods of gene comparison, find horses genetically closer to bats. For them, *genetically* closer means *evolutionarily* closer, but that’s obviously absurd, so they just call it a ‘paradoxical finding,’ shake their heads and move on. They never question the paradigm, their basic belief in evolution. They never stop to ask themselves whether or not amount of genetic similarity really is a good measure of relationship

^A The evolutionists’ response to this problem (apart from ignoring it) was to suggest that the mutations accrued in different lines and then the lines merged at the end of the process to establish humans. This completely unquantified statement is wishful thinking and statistical impossibility. Such a process would have required a huge number of reproductively isolated lines, with members from different lines conveniently meeting and mating with mathematical precision (while all other members of the line went extinct). This miraculous process would then be repeated thousands or millions of times always with different sets of formerly isolated lines, always with the remaining unmerged populations obediently going extinct at the right time (but not before). Meanwhile, these gene mergers would all have to be small enough to never result in reproductive failure or sterility (as when mating a horse and a donkey produces a sterile mule, not a new lineage). Such a long series of overwhelmingly improbable events would be indistinguishable from a miracle. Nothing like it is ever observed in the real world.

or proof of common ancestry.”

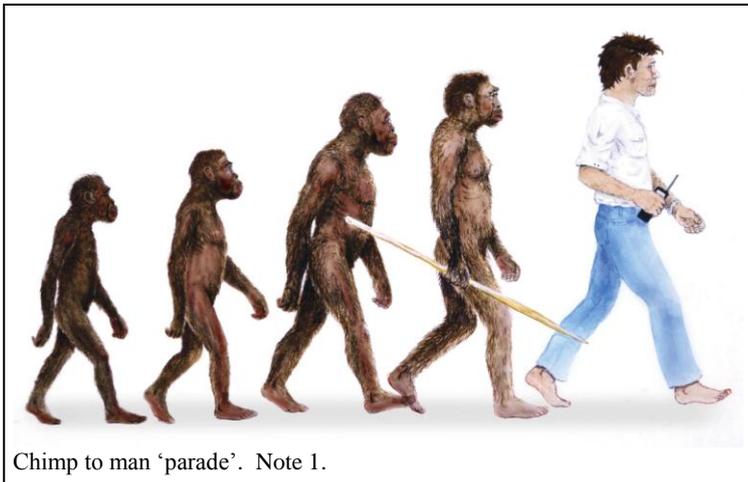
“But why should we have any genes in common at all if we don’t have a common ancestor?”

“We have genes in common with monkeys, and with bananas and bacteria, because all of life had a common Designer. He reused the same design features throughout His creation, just like human designers do. When people invented cell phones, they used existing design features like push buttons, screws and batteries. You can find screws and batteries in all sorts of different human inventions, but not a one of them ‘evolved’ from another by random chance; flashlights didn’t evolve into cell phones with portable radios as the ‘missing link!’ No, each human invention is uniquely, intelligently designed, not a product of chance, but most make use of design features, like screws, that are common to many human inventions. It’s the same way with biology. Common design features are due to a common Designer, not a common ancestor.”

Xiao Wang shook his head. “I just can’t believe that all these scientists could be wrong!”

“We tend to believe them because we think they are authoritative. But it’s vital that you understand that scientists are not a breed apart. They’re like everyone else. They have preconceived biases which they don’t question—often they aren’t even aware of them. As Dr. Behe, himself a Ph.D. scientist, pointed out, scientists don’t rigorously test everything before they believe it; they accept most things on authority.⁷ Furthermore, with regards to their own research, scientists don’t welcome critical evaluation of their findings. They feel the same way about criticism as everyone else does: They hate it! As a result, they are capable of making fantastic blunders, and then holding on to them for decades. So-called ‘human evolution’ is one of the worst areas for these kinds of mistakes.

“You’ve seen the picture everywhere: a series of increasingly tall figures, a chimpanzee on the left side, modern man on the right side, with a series of ‘intermediates’ in between. It’s designed to teach us that we are just a form of highly evolved ape, and that the difference between ourselves and animals is relative, not absolute. But this imagined, upwardly developing sequence has absolutely no basis in reality. And, amazingly, the evolutionary experts are finally admitting it. In 2000, evolutionary anthropologist J.J. Hublin, writing in *Nature* magazine of all places, admitted:”



Chimp to man ‘parade’. Note 1.

The once-popular fresco showing a single file of marching hominids becoming ever more vertical, tall and hairless now appears to be a fiction.⁸

“But they have fossils to prove it!” Xiao Wang was almost indignant. “I’ve seen them in museums.”

“In museums you’ve seen copies of reconstructions. They never display the actual hominoid fossils in museums; they’re considered far too precious for that! But the real question is in the interpretation and reconstruction of the usually fragmentary fossil finds. These interpretations are carried out in a manner severely biased by evolutionary preconceptions. Some relatively honest evolutionary anthropologists have be-

gun to admit this, even though they still truly believe that humans evolved from ape-like creatures. One famous evolutionist, Ian Tattersall, curator at the American Museum of Natural History, admitted in 1996:

“...in paleoanthropology, the patterns we perceive are as likely to result from our unconscious mindsets as from the evidence itself.”⁹

Another ‘true believer’ in evolution, the Chief Science Writer for the prestigious science journal *Nature*, which is staunchly evolutionary, also rejects the ape-to-human series we see pictured so often in the media. In 1999 he warned:

No fossil is buried with its birth certificate.

...

[T]he intervals of time that separate fossils are so huge that we cannot say anything definite about their possible connection through ancestry and descent.

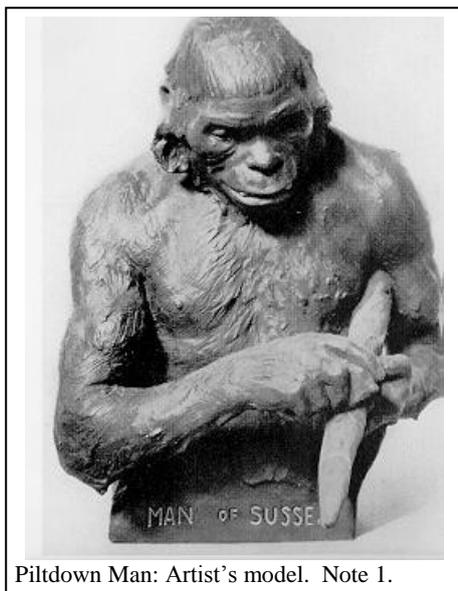
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[Each fossil is] an isolated point, with no knowable connection to any other given fossil, and all float around in an overwhelming sea of gaps.

...

To take a line of fossils and claim that they represent a lineage is not a scientific hypothesis that can be tested, but an assertion that carries the same validity as a bedtime story—amusing, perhaps even instructive, but not scientific.¹⁰

Gee believes in evolution and thinks the problem is caused by the enormous time spans involved—but he does admit we cannot know that one fossil type was the ancestor to another. The ‘evolutionary series’ we see in textbooks are supposition, not science. Or, in the words of Dr. Jonathan Wells, a scientist critical of evolution:



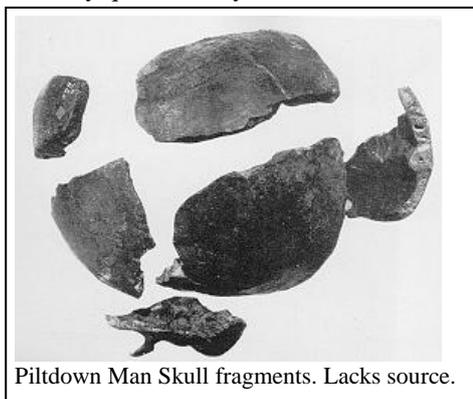
Pitdown Man: Artist’s model. Note 1.

The general public is rarely informed of the deep-seated uncertainty about human origins that is reflected in these statements by scientific experts. Instead, we are simply fed the latest version of somebody’s theory, without being told that paleoanthropologists themselves cannot agree over it. And typically, the theory is illustrated with fanciful drawings of cave men. . . . the public is rarely told that the fossils have been placed into ‘preexisting narrative structures,’ or that the story they are hearing rests on ‘biases, preconceptions and assumptions.’¹¹

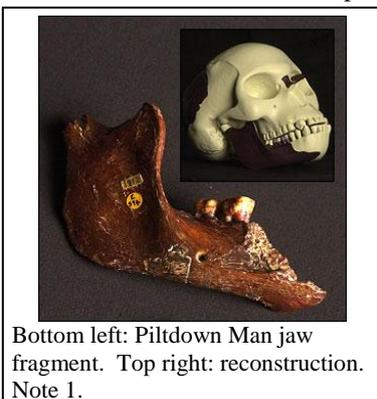
Fossil blunders: Preconceived notions, gross misinterpretations, and a few outright frauds

“Let me give you an example of how preconceived notions can blind scientists. During 1908 to 1915, the Pitdown Man fossils were discovered. From then until 1954, Pitdown Man was regarded as one of the most important ‘link fossils’ between humans and apes. Only a skull, part of a jawbone, and a few teeth were ‘discovered.’ Because it was regarded as so valuable, it was locked in the safe of the British Museum and zealously protected for 40 years. It appeared in hundreds of books and articles, being regarded as a great ‘evidence’ proving Darwin was right and a key link in understanding human evolution. Eventually, however, it no longer fit with the shifting theories of human evolution. Perhaps it was for that reason that a more careful and skeptical examination was finally undertaken in 1953. It was discovered that it was a deliberate fake—composed of the cranium of a human and part of the jaw of an orangutan. It was actually quite crudely done, with obvious file marks on the teeth, but no one pointed them out for 40 years! In point of

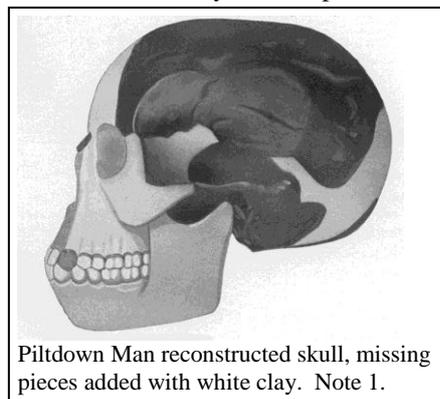
fact, questions about one of the teeth had been raised in 1916 by a dental anatomist who examined them, but his conclusions were rejected.”¹²



Pitdown Man Skull fragments. Lacks source.



Bottom left: Pitdown Man jaw fragment. Top right: reconstruction. Note 1.



Pitdown Man reconstructed skull, missing pieces added with white clay. Note 1.

“There are fakes in every area of life,” objected Xiao Wang. “That doesn’t disprove evolution!”

“Certainly not. But what it *does* show is that evolutionary anthropologists aren’t necessarily careful. Here’s how one creationist describes it:

...if science were really self-correcting, Pitdown would have been uncovered long before it was. ...there were elements about it that were quite obvious. The file marks on the orangutan teeth of the lower jaw were clearly visible. The molars were misaligned and filed at two different angles. The canine tooth had been filed down so far that the pulp cavity had been exposed and then plugged. If science were really self-correcting, the Pitdown fraud should have been discovered soon after it was committed, rather than thirty-eight to forty-five years later.

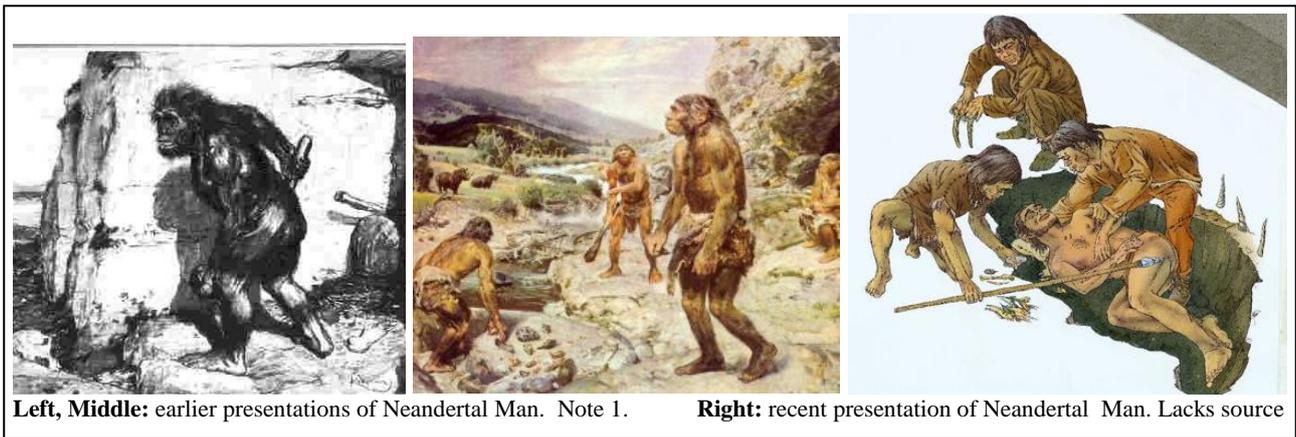
Why was the Pitdown hoax so successful? A big-brained ancestor was what evolutionists [at that time] were expecting to find. ... If the australopithecines had not come into favor as the preferred evolutionary ancestors of humans, and Pitdown had not become an embarrassment because it no longer fit the scenario, the fraud might still be undiscovered, and Pitdown might still be considered a legitimate fossil. ...

The widespread myth is that science is self-correcting, and because of this it is a superior worldview. In reality, science is not adequately self-correcting and for very practical reasons cannot be self-correcting in any meaningful way.¹³

“Consider another example from the ever-changing myth of human evolution. Neandertal Man was initially discovered in the 1800s, many argued that he was just an ancient race of humanity. However, influenced by Darwinist presuppositions, by the 20th century evolutionary anthropologists like Marcellin Boule reinterpreted him as sub-human, stooped and brutish. This view prevailed for over half a century, till it was acknowledged that the stooped posture and bowed legs in some Neandertal specimens was due to pathological conditions. Neandertals were



Neandertal artifact thought to be part of a flute. Note 1.

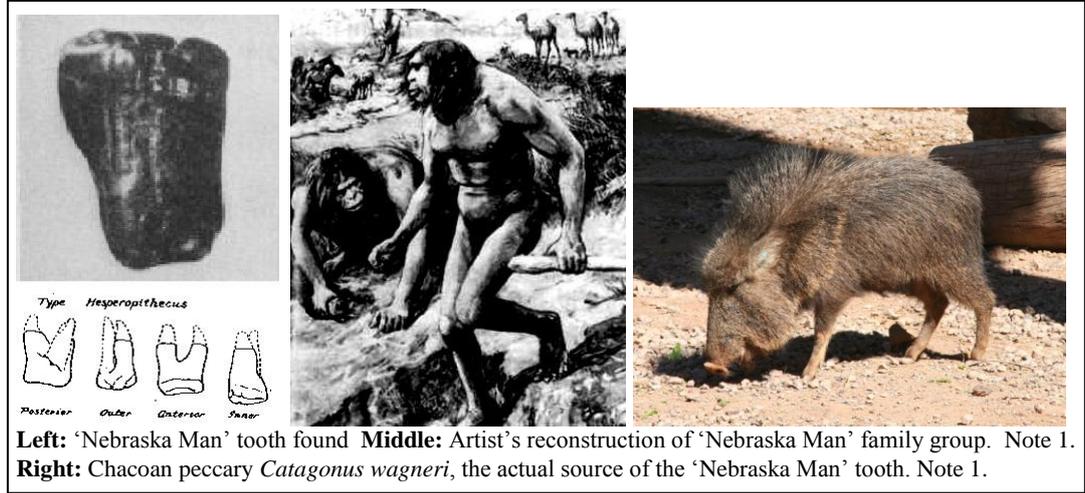


Left, Middle: earlier presentations of Neanderthal Man. Note 1. **Right:** recent presentation of Neanderthal Man. Lacks source

an ancient race of humans, who used tools, buried their dead with ritual, had music and art, and gave long-term care to severely injured people.”
 “They already told me that in my high school textbook” said Xiao Wang.
 “Yes, but the textbooks said something different when I was in high school! Don’t you see that they always know far less than they claim?”

“Let me give you my favorite example, even though it’s a little dated. In 1922 a tooth was discovered in Nebraska in the U.S.A. The tooth was shown to a first rank American fossil expert, Dr. Henry Fairfield Osborn, a professor at Columbia University. Osborn and other American scientists were very excited about this tooth. They claimed that they could see special characteristics of a species intermediary between humans and apes in the tooth. Thereupon this animal was regarded as an ‘Ape Man,’ taken as “evidence” that apes evolved into humans!

The head of the American Museum of Natural History loudly proclaimed that the ‘missing link’ between apes and humans had been found. In 1922, the London Daily News published a picture of ‘Nebraska Man’ and his mate, as well as the tools they used—all of this based on a single tooth!



Left: ‘Nebraska Man’ tooth found **Middle:** Artist’s reconstruction of ‘Nebraska Man’ family group. Note 1. **Right:** Chacoan peccary *Catagonus wagneri*, the actual source of the ‘Nebraska Man’ tooth. Note 1.

In 1928, in the area where the tooth had been discovered, the rest of the skeleton was found. They discovered it was a kind of pig! In 1972 in Peru in South America, a similar kind of pig was discovered to be still living. Are we descended from Peruvian pigs?

Both boys laughed out loud. “But all of these examples are in the past,” Xiao Wang asserted. “We’re better about that kind of thing now!”

“Are we?” queried Professor Ho. “How about a recent example of a fake fossil that fooled many experts. Here’s a picture from the prestigious *National Geographic* magazine. It’s from 1999—note that, not 1899, 1999. It’s a marvelous ‘artist’s reconstruction’ of a dino-bird fossil from China called ‘Archaeoraptor.’ At last, solid proof that birds



Left: Fraudulent ‘Archaeoraptor’ fossil. **Right:** Artist’s reconstruction of ‘Archaeoraptor.’ Note 1.

evolved from dinosaurs! It was dated at 120 million years old. Closer examination revealed that it was parts of two different fossils, one a bird and one a dinosaur. The two pieces were cleverly glued together by some enterprising fossil hunters in Liaoning Province, smuggled out of the country, and ultimately sold in the United States. From there, preconceived beliefs took flight and created a dino-bird. Apparently some peasants in Liaoning are smarter than some scientists in the United States!”

More laughter, then Xiao Wang

again asserted: “But that one was discovered and rejected quickly, within a year. You see, science was correcting itself!”

Professor Ho nodded, but was unconvinced. “In this case, there were scientists anxious to oppose the view that birds evolved from dinosaurs, so they were motivated to criticize the find. What if they hadn’t been? The fossil had already gotten past a number of Ph.D. scientists. This easily could have been another Piltdown man. The discovery was quick—this time. But the real question is, how many fossils which are presently regarded as ‘iron-clad proof’ of evolution will be rejected a short while from now? Forget about actual fakes; the biggest problem is gross misinterpretations of the data which go unchallenged for decades. Science is not *reliably* self-correcting. Let me give you another example.

“You’ve doubtless seen pictures of ‘Lucy,’ the famous australopithecine. She’s presented as a bipedal ‘missing link.’ She was actually only about three feet tall. She almost certainly walked on her knuckles like modern apes—a conclusion reached by evolutionists who did thorough analysis, not by creationists! This was further confirmed by finding another, more complete fossil of the same species in 2006.^{14,15} Compare the fragmentary bones with the elaborate reconstruction and upright posture. The reconstruction is inaccurate and purposely misleading, trying to convince people ‘Lucy’ was a missing link. In fact, ‘Lucy’ is just an extinct variety of ape. But the misinformation continues to appear in textbooks and museums. There’s no reason to think the ‘Lucy’ fossil was a fraud, but it was grossly misinterpreted and misleadingly presented.”

“Why can’t science be self-correcting?” asked Xiao Li.

“Because the people who control the universities, the science journals, and the research funding are all completely committed to the evolutionary paradigm. You’re allowed to ask *how* evolution happened. You’re not allowed to ask *whether* it did. If you go that far outside of the paradigm, you’re blacklisted, as has happened to most of the creation scientists and some of the intelligent design scientists. Some have even been fired from universities. It’s so bad that one Chinese visiting scholar in the United States made the famous comment:

In China its O.K. to criticize Darwin but not...in the United States...¹⁶

That’s how bad the censorship against criticism of evolution is in U.S. universities.

“But there’s a deeper problem than academic censorship. It isn’t even possible in theory for science to be self-correcting.

Scientists simply do not have the time nor the money to check up on the research of other scientists. ... They are driven by the publish-or-perish attitude prevalent today. It simply does not benefit them in any way...to confirm or falsify the work of someone else. ... They have no time to check out the work of other scientists just for the fun of checking them out or to prove that science really is self-correcting. There are exceptions, but in practice this is normally the case.

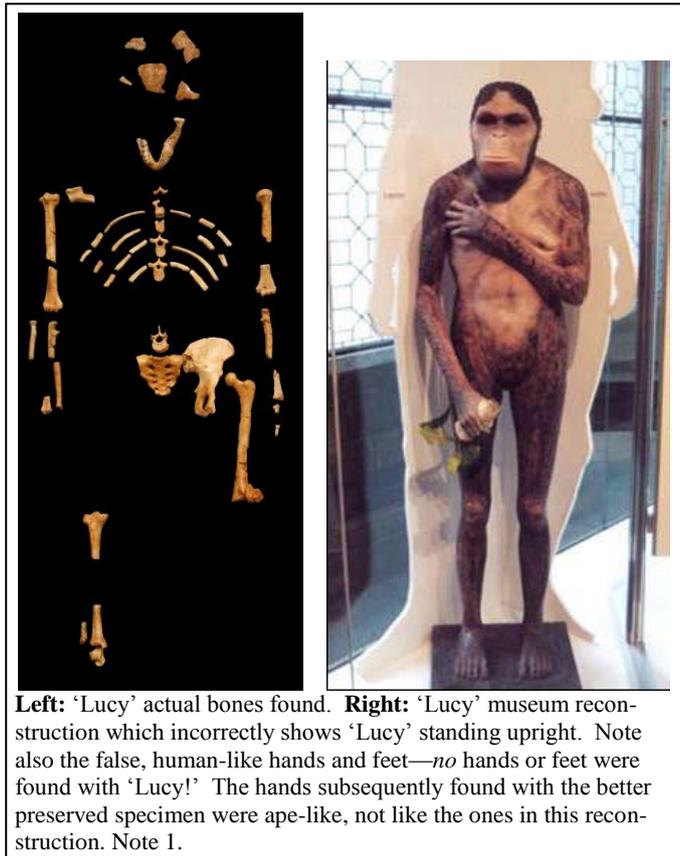
There is a touch of irony in the fact that science works in the very opposite way that people think it works. The self-correcting aspect of science implies a self-policing action by scientists, a checking up on one another. In actuality, scientists have demonstrated an incredible faith and trust in the work of their fellow scientists. They tend to accept that work at face value without much investigation at all. A number of recent scandals have developed in which fraudulent medical research was incorporated into medical practice and the fraud was discovered far down the line. The exposure of error usually occurs only when the effects are very obvious. If the error is not obvious, it can be perpetuated almost indefinitely. ...

... One of the areas of science with which I am familiar is paleoanthropology. I can testify that in this area the track record for self-correcting by scientists is very poor.¹⁷

“Well then, why should we believe in science at all?” asked Xiao Li.

“I believe in science, when it has a good basis. But science is a fallible human activity, so we should always be careful. Here it helps to distinguish between two different kinds of science: operational and historical.

“Operational science studies things which can be tested in the here and now, like the principles of electricity. Applying that kind of scientific research has allowed technological advances which we use every day: flashlights and televisions and computers. In operational science, most errors can be found quickly, at least in theory.



Left: ‘Lucy’ actual bones found. **Right:** ‘Lucy’ museum reconstruction which incorrectly shows ‘Lucy’ standing upright. Note also the false, human-like hands and feet—*no* hands or feet were found with ‘Lucy!’ The hands subsequently found with the better preserved specimen were ape-like, not like the ones in this reconstruction. Note 1.

“But evolution is part of what is called ‘historical science,’ attempting to reconstruct what happened in the past. We can never do an experiment to definitely prove it because we can never reply the past. Thus it is very hard to really give vigorous scientific proof about the past; you can only infer from what you see in the present, and your presuppositions will greatly affect your inferences. This is unavoidable, but, unfortunately, evolutionists rarely admit it.

“Operational science produces cell phones, and keeps experimenting in the present until it makes one that works in the present. Historical science produces stories about the past, and if they’re wrong, it’s often very hard to demonstrate it.”

Peking Man: Who ate who?

“Professor, what about Peking Man?” asked Xiao Li.

“My textbooks said Peking Man is a *Homo erectus*, a primitive ape-man,” asserted Xiao Wang confidently.

“*Homo erectus* has been called by one evolutionist a ‘garbage bag taxon,’ where anything which doesn’t fit elsewhere is thrown in,” replied Professor Ho. “It doesn’t really have a clear definition. Most of the specimens in *Homo erectus* are really just ancient human beings; some of them are really just extinct apes.

“What did they really find at Zhoukoutian? Here in China it is a matter of national pride to protect the ‘scientific importance’ of this ‘significant evolutionary find’—though why one should be proud of being descended from an ape is beyond me. But it makes it even harder to arrive at the truth. What seems well attested is the following.

“In the 1920s and 1930s, fragments from about 40 different ‘Peking Man’ skulls were found, as well as a few fragments of jawbones and other bones, and some teeth. All of the skulls had been separated from the rest of the skeleton. All of them were smashed in at the back. Why? Quite possibly in order to remove and eat the brains. Even the anthropologists who originally excavated the ‘Peking Man’ fossils admitted this. This phenomenon is like what people in Guangdong province and other areas of Southeast Asia who eat monkey brain still do today. It’s quite possible that the so-called ‘Peking Men’ was merely ‘Peking Monkeys,’ whose brains were eaten by the humans living in the area at that time.¹⁸ But this, and everything else about Peking Man, is still debated.

“What is generally recognized as having been found at the site includes:

- Bones and sometimes complete skeletons of a wide assortment of animals
- Thousands of highly developed stone tools.
- Several piles of human-worked stone chips, the by-product of making stone tools. The piles were about a half a meter deep.
- A six to seven meter deep ash pit, with the surrounding soil melted and fused by the high heat.

There has been lots of argument about the meaning of these findings, but obviously there was a large scale stone tool industry going on, and significant use of fire.

“In addition, at the so-called ‘upper cave’ site, unquestionably human remains were found.

- Several skeletons of true humans, exactly the same as modern humans. These are now called ‘Upper Cave Man.’
- Tools and other artifacts made of stone and bone.
- Numerous animal bones.
- Evidence of burials with ritual.

It’s clear the so-called ‘Upper Cave Men’ were just human beings, not significantly different from modern men.

“There are two key questions in interpreting these findings.

“The first question is, what was the actual shape and size of the ‘Peking Man’ skulls—and, for that matter, the rest of their bodies. How big were the skulls? All we see today are casts made from reconstructions. All the fossils were lost during World War II, and only a tiny amount of material has been found since then. Were the reconstructions done correctly? We will probably never know now. Even apart from the reconstructions, how accurate are the casts we still have now? That’s not a small question. In 1984, a major exhibition of original ‘hominoid’ fossils was held at the American Museum of Natural History in New York. The experts gathered we surprised to find how different the originals were from the casts, even casts made with better techniques than were available for the Peking Man fossils:

Perhaps the best example of the problem facing paleoanthropology is that many of the scholars who felt that casting technology was no able to provide copies as good as the originals, after studying the originals in the American Museum exhibit, admitted ‘that technology still has a long way to go.’ The crowning blow came at the beginning of the public display. The precision mounts for the original fossils were carefully prepared based on casts supplied in advance. When the original fossils were placed in those mounts, most of them did not fit. No better illustration could be found showing that ‘casts are no substitute for originals.’¹⁹

Late 20th century technology casting technology at major world museums produced unreliable casts of fossils. What about whatever techniques were available in China to use on the Peking Man fossils in the 1930s?

Even when the fragmentary original fossils were still available, the size of the brain case was debated. One of the discoverers, Black, claimed the brains would have been 1000cc, halfway between the *average* of modern apes and modern man, but other workers who saw the skulls at that time disagreed with him, claiming they were smaller than that, and now we can’t check it. Remember, all of the skulls were found broken and more or less incomplete, so any reconstruction had some degree of speculation. Furthermore, the range for mentally normal modern human beings goes all

the way down to less than 1000cc—with *no* effect on mental abilities. Modern humans range from 800cc to 2200cc.²⁰ The claim that size of brain determines intelligence has been known to be false for decades.

“Don’t be deceived by the pictures and statues you’ve seen. Remember, as we saw before with Lucy, the artist’s reconstructions are mostly based on imagination. Even when we have a complete skeleton, there’s no way to know nose or lips or ears looked like, no way to know how much hair it had or where on it’s body, etc. That’s all blind guesswork. And in this case we never even had a truly complete skull with jawbone, much less a skeleton!”

“The second question is, what was the relationship, if any, between the two sites. Some have suggested that Peking Man was merely Peking Monkey, whose brains were eaten by the so-called ‘Upper Cave Men’ who had a furnace and worked stone tools in the lower cave until it collapsed.

“Can’t we tell by the dates?” asked Xiao Wang.

“Evolutionists would assure you that they can. They claim Peking Man site is from at least 200,000 years ago, while the Upper Cave Man site is only 10,000 to 20,000 years old, but actually they do not have any reliable methods for determining these dates. I believe the sites were probably occupied at the same time, or close to it, so Peking Man and Upper Cave Man were contemporaneous.”

“How do you know?”

“If you can come again, we’ll take about dating methods [see chapter 3]. A mistaken belief in long ages is actually the cornerstone of evolutionary atheism, and I’d like to talk to you about it at length. But for today, note that the findings in the so-called ‘Peking Man’ site, the lower cave, all fit with *human* activity, not with that of primitive, apish beings. The stone tool industry there is probably at least equivalent to the tools used by Australian aborigines and some remote New Guinea tribes within the last 100 years. These ‘primitive’ 20th century people were human beings just like us. They had the same basic intelligence as we do, but their knowledge and technology base was lower, so their lives were what we call ‘primitive.’ It had nothing to do with their humanity.”

“So what’s your conclusion?” asked Xiao Li.

“Upper Cave Man was obviously just human. Whatever made the stone tools and fires in Peking Man’s cave was also obviously a human. I remain uncertain as to whether Peking Man was a human who made tools, or a monkey eaten by the humans who made the tools. But I know there’s nothing in between!”

Humans and ‘ape men’ were alive at the same time

Xiao Wang remained unconvinced. “Even if you’re right that Peking Man is questionable, even if Lucy was just an ape, still, there must have been evolution among hominoids. The older, deeper fossils are all apes, while modern humans don’t appear until the much later, upper layers. That’s what convinces me we evolved.”

“You know what, Xiao Wang? If it really were true that the fossils form a smooth line through time from apes to



Left: Laetoli footprints. Lack source. **Middle:** Close-up of one of the Laetoli footprints. Note 1 **Right:** Human footprint (left) vs. chimpanzee footprint (right). [AiG spanish mat’l].

humans, it might convince me too. But the facts are otherwise.” Professor Ho reached up to the bookshelves behind him and pulled down a thick volume. “The reality is, human artifacts and fossil bones identical to modern humans have been found in deep rock layers which the evolutionists themselves date as very old—older than Peking Man, and some even older than ‘Lucy.’ Let me give you three examples.”

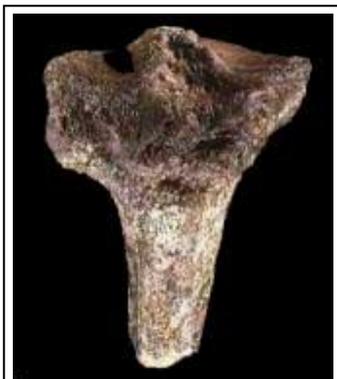
Professor Ho consulted the index, then turned to a picture.

“These are the Laetoli footprints from northern Tanzania. They were discovered by evolutionists in 1978. There are 69 fossilized footprints from three individuals who walked through volcanic ash which was then covered and hardened to stone. The footprints have been extensively studied. They look nothing like ape footprints. Evolutionists compared them to footprints made by modern people who habitually walk barefoot. They found them to be indistinguishable.²¹ But the prints are in a rock layer ‘dated’ about 3.7 million years old! That’s almost a million years older than Lucy, and far too early, according to evolutionists, for modern man. According to them, modern *Homo sapiens* didn’t come on the scene until less than 200,000 years ago, millions of years after the footprints were made. One of the later analysts admitted:

If the G [Laetoli] footprints were not known to be so old, we would readily concluded that they were made by a member of our genus *Homo*.²²

In short, as the evolutionists themselves admitted, the tracks look exactly like human footprints—but they’re not allowed to be human, because they are ‘too early.’ ”

Professor Ho flipped to another page. “Here’s another example. In 1965 a Harvard researcher working in Kenya found the lower end of a humerus; that is, he found the arm bone just above the elbow. It’s called the Kanapoi elbow



Kanapoi humeral fragment (arm bone) KNM-KP 271. Note 1.

fossil, KNM-KP 271. It looks just like a human arm bone, not like an ape or australopithecine. That was the conclusion of evolutionist experts who examined it across the next sixteen years; for example:

The results show that the Kanapoi specimen, which is 4 to 4.5 million years old, is indistinguishable from modern *Homo sapiens*.²³

Of course, since it is regarded as so ‘old’ it is not ‘allowed’ to be human, no matter what the observational facts are!

“Let me give you one more example.” Professor Ho flipped to another page. “Olduvai Gorge in Tanzania is famous for its hominoid fossils. All the way back in 1961-62, in the lowest, and thus oldest, level of the gorge, Mary Leaky discovered a circular stone structure. It was made of several hundred lava rocks, the nearest source for which was several miles away. It was readily recognizable as a purposely constructed building:

The people of the Okombambi tribe in southwest Africa construct such shelters today. They make a low ring of stones with higher piles at intervals to support upright poles or braces. Over these poles are placed skins or grasses to keep out the wind. Turkana tribesmen living in the desert of northern Kenya make similar structures.²⁴

At the site, Leaky also found:

...Oldowan tools. ...Leaky reports that a similar type of stone chopper is used today by the remote Turkana tribesmen to break open the nuts of the doum palm.²⁵

A creationist researcher concluded:

The conceptual ability required to make such structures, the physical ability to carry hundreds of large stones several miles, and the fact that similar structures are made by humans today constitute strong evidence that true humans were on the scene at Olduvai at about 2 Mya [million years] on the evolution time scale.²⁶

The site is ‘dated’ at 1.8 to 2.0 million years old, but what is found there would require human intellectual and physical capacities to make.

“Here’s another example found by evolutionists in the Lake Rudolf (Turkana) area of Kenya. It’s reference number is KNM-ER 1481. It includes a femur and lower leg bone fragments. A Creationist researcher summarizes the evolutionists’ analysis:

The...femur known as KNM-ER...1481 [is] dated at about 1.9 Mya on the evolution time scale. KNM-ER 1481 is a completely modern leg bone.²⁷

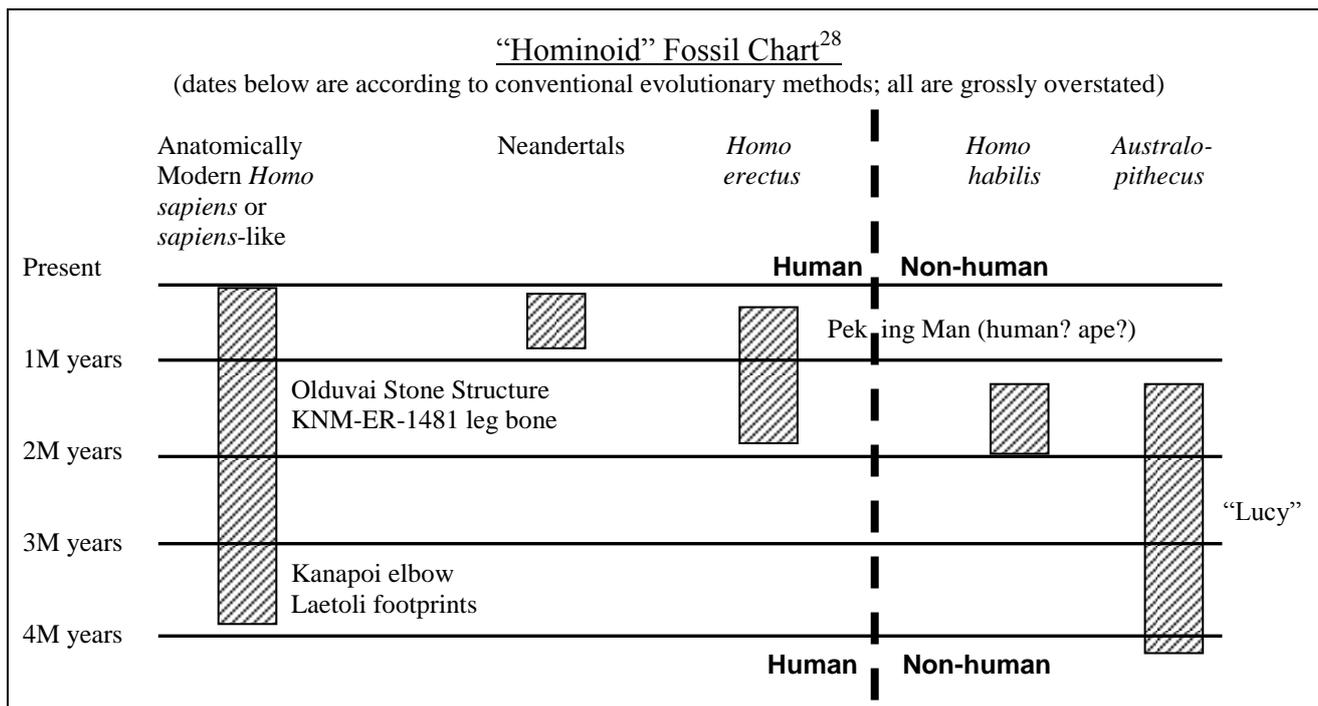
The femur look exactly like those of modern humans, but it isn’t ‘allowed’ to be human! If there were ‘modern’ humans alive at that time, then evolution is false. The same is true for the other three findings I have just shown you—and there are many other examples we could examine.

“The reality of the so-called ‘hominoid’ fossil record is that the different types were existing together at the same time! So none could have been the evolutionary ancestor of any other kind.



Olduvai stone tools. Note 1.

“This chart shows the assigned date ranges of the ‘hominoid’ fossils and artifacts which have been found. ‘M’ stands for million. The cross-hatched rectangular bars  show the date range where fossils have been found.



As you can see, human fossil and artifact findings cover the entire range of so-called ‘hominoid’ or ‘ape-man’ evolution! Human beings just like modern humans were alive when the ‘ape-men’ fossils were buried. Since humans existed at the same time, obviously they did not evolve from apes like *Australopithecus*. And the Neandertals and *Homo erectus* were really just humans, *Homo sapiens*. In reality, all these fossils all belonged to one of two types: humans and apes. Some of the fossils were ancient races of human beings, some of which have died out or changed due to genetic variation (not evolution) over time. The rest belonged to a variety of apes and monkeys, some of which have died out or changed a little.”

Xiao Li was looking at the Professor’s ‘Hominoid Fossil Chart’ with a troubled expression on his face. “Professor Ho, what about all those millions of years? That doesn’t seem to fit with what the Bible says.”

Professor Ho shook his head briskly. “Absolutely not! The dates I’m giving you in this chart are the ones assigned by the evolutionists. I’m only using them to show you that even by the evolutionists’ own dating estimates, human beings co-existed with their so-called ‘ape-man’ ancestors. In fact, those dates are all grossly overstated. The dating methods used by the evolutionists give incorrect results.”

Xiao Wang looked up sharply from the pictures. “I’d like to see the proof of that!” he exclaimed combatively.

Professor Ho smiled mildly. “If you can come next week, Xiao Wang, I’d be happy to discuss it with your from the perspective of geology and paleontology.” [See chapter 3.]

“I’m up for it!” Xiao Wang nodded curtly.

“Good! I look forward to it.”

The three were silent for a moment, then Professor Ho shook his head in frustration. “The so-called ‘history of human evolution’ is a confused muddle of faked artifacts, misinterpreted data, and wild extrapolations of scholarly imagination. Not surprisingly, the story changes every couple of decades as the ‘scientific certainty’ of one moment is overturned and quietly retired, to be replaced by the next set of radically different ‘latest scientific findings.’ It’s all just a myth, constantly retold and revised, but with no basis in reality. Even many of the experts in the field admit it is subjective. Dr. Jonathan Wells, who has a Ph.D. in molecular and cell biology, has researched the controversy:

...from the very beginning, the ape-to-human icon was simply a restatement of materialistic philosophy. It’s form preceded any fossil evidence.... Fossils discovered later were just plugged into the preexisting framework.²⁹

The mythical elements in the study of human origins are still there. In 1996 American Museum of Natural History Curator Ian Tattersall [an evolutionist] acknowledged that ‘in paleoanthropology, the patterns we perceive are as likely to result from our unconscious mindsets as from the evidence itself.’ Arizona State University anthropologist Geoffrey Clark [an evolutionist] echoed this view in 1997 when he wrote that ‘we select among alternative sets of research conclusions in accordance with our biases and preconceptions—a process that is, at once, both political and subjective.’ Clark suggested that ‘paleoanthropology has the form but not the substance of a science.’

Given the highly subjective nature of paleoanthropology—as acknowledged by its own practitioners—what can the field reliably tell us about human origins?³⁰

In other words, Dr. Wells concludes that the stories in the textbooks of how we evolved from ape-like creatures are just myths. And I agree!”

“So what’s your explanation?” Xiao Wang demanded.

“My explanation comes from the only eyewitness testimony of what happened at the beginning. Only God saw it, and He recorded it in the Bible. You remember when you first came into my office today, you asked, ‘If there’s a good, all-powerful God, why is there so much evil in the world?’ ”

“I’m still waiting for your answer!”

“As I mentioned before, it’s answered on page three of the Bible. But first we need to look at pages one and two.”

“Let’s get going then!”

[Here it is suggested that the reader read Genesis chapters one and two in the Bible.]

The Testimony of the Bible: The Nature of Humans: Spirit, Mind, Body

“God left us a record of what He did. After creating outer space and the earth, the seas and the land, and plants and animals, God specially created humans:”

Then God said, "Let Us make man in Our image, according to Our likeness; and let them rule over the fish of the sea and over the birds of the sky and over the cattle and over all the earth, and over every creeping thing that creeps on the earth." And God created man in His own image, in the image of God He created him; male and female He created them. And God blessed them; and God said to them, "Be fruitful and multiply, and fill the earth, and subdue it; and rule over the fish of the sea and over the birds of the sky, and over every living thing that moves on the earth." Then God said, "Behold, I have given you every plant yielding seed that is on the surface of all the earth, and every tree which has fruit yielding seed; it shall be food for you; and to every beast of the earth and to every bird of the sky and to every thing that moves on the earth which has life, I have given every green plant for food"; and it was so. And God saw all that He had made, and behold, it was very good. And there was evening and there was morning, the sixth day. [Genesis 1:26-31 NAS]

Then Yahweh God formed man of dust from the ground, and breathed into his nostrils the breath of life; and man became a living being. [Genesis 2:7 NAS]

Xiao Wang immediately had questions. “What does ‘Let Us make man in Our image’ mean? What does God look like?”

“A good question! The entire Bible constantly emphasizes that there are two sides to being a human being: a body and a soul, a physical part and a spiritual part. Genesis chapter one, ‘God created man in His own image,’ refers to the spiritual part. Genesis chapter two, ‘God formed man of dust from the ground,’ refers to our physical body. God Himself is a spirit; He existed before He ever made matter. He doesn’t have a body, so His image can’t be in our physical body. It’s in our soul.

“By the way, note that it says ‘God created man in His own image...male and female He created them.’ This means that both males and females equally carry God’s image in their souls. Thus the equality of men and women is taught from the very first page of the Bible. Sometimes people accuse the Bible of a male chauvinist bias, but actually it was the influence of the Bible which established the equality of the sexes in Western culture, then the idea spread from there to other parts of the world. The Bible talks about different *roles* for the sexes, especially in the family, but it affirms their equal *value* and significance on the very first page.”

Xiao Li spoke up with a puzzled look on his face. “There’s something I’ve always wondered about. Why does it say ‘Let Us make man in *Our* image’? There’s only one God, I know that. Who was He talking to? The angels?”

“Some people have suggested God is talking to Himself as a king, using the ‘plural of majesty.’ On the other hand, many people have thought it is an indirect reference to the Trinity, the fact that the one God exists in three Persons. In any case, the entire Bible strongly emphasizes that there is only one God, so it isn’t reasonable to think it means there was more than one God doing the creating.”

Xiao Wang looked skeptical. “I’ve never understood what you Christians mean by this ‘Trinity’ idea!”

“It certainly is a great mystery,” Professor Ho agreed. “To tell the truth, I don’t understand it either; no one can. But it shouldn’t surprise us too much that the Creator is not fully comprehensible to His creation. He’s simply too far above us for us to completely understand Him—but not so far that He doesn’t care about us.

“Let me give an example. For many years I had a well trained dog. We had lots of communication together and a strong emotional bond. I missed him sorely when he died. But even though we were close, I was never able to get him to understand why I enjoyed sitting with an open book in front of me, nor why I took him to get shots every year. I was simply too far above him for him to be able to understand most of my thoughts and actions. It’s like that with God. He transcends us so far that there is very much about Him we simply cannot understand; we’re too small, too low.”

“So you mean God looks at us like we look at a dog or a horse?”

“No; He values us much more than that, so much that He became a human being and died for us. But we’ll talk about that later.

“The key idea in this passage is humans have soul, and it’s our soul that makes us fundamentally different from animals. Humans are like animals in that we have a body, but also like God in that we have a soul. ”

“So God is just a mental concept?”

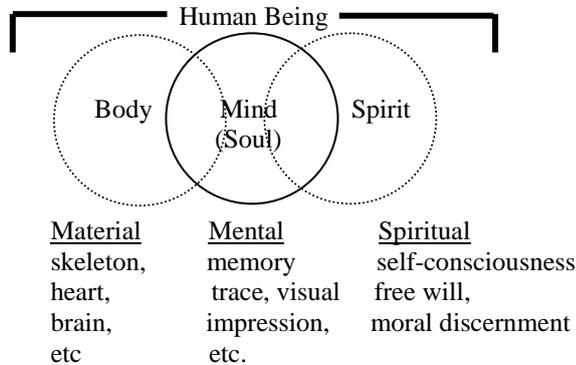
“No, He is neither material nor psychological; He is a spirit.”

“What does that mean? This is getting more and more confusing!”

“Perhaps a simple diagram will help us understand. I said just now that humans are a body plus a soul. But really, to be more precise, we have three parts: a body, a soul, and a spirit.”

“So we’re a trinity too, like God?” asked Xiao Li.

“No; we’re not triune like God; we’re tripartite, make up of three parts linked together to form a whole. We can use three overlapping circles to represent the nature of humans.”



“Let’s start on the left with the circle marked ‘body.’ This is the easiest one to understand since we can see it. Human bodies are material. Until about a hundred or so years ago, many scientists thought there was some kind of ‘life force’ or other special quality in the bodies of living things. The Bible, however, has always said what modern science only recently confirmed: our bodies are made of ordinary matter, the same elements as non-living dust. The unique characteristic of biological life is not its elements, but the *arrangement* of those elements into complex chemicals, chemicals into complex structures like your skeleton, your heart and your brain, and structures into a self-sustaining, self-reproducing organism. Every time I think about these it amazes me more and more that some scientists who know about these things can delude themselves into believing they came about by chance! Well, we already showed that complex biological systems—even a single, specific protein—could never arise by a random process. God created your body, and loaned it to you!

“The bodies of human beings are essentially the same as those of animals but with some different, unique structures. The creative *handiwork* of God is clearly seen in our bodies, but the *image* of God is not found there.

“Now look at the middle circle, the mind or soul.^B I have drawn it as overlapping with the body and the spirit because it is the interface between the two and also because it seems to me to be impossible to draw a sharp line between brain and mind or between mind and spirit.

The material body’s brain is the basis for one part of our thoughts, which can be called mental. The mental includes, for example, a visual impression, or the memory trace of a word you just heard spoken, or other similar information in your brain. Although these impressions in our brains arise from material phenomena, they themselves are not material. One can say that they are neural states, or something like abstract information systems. It’s very much like the information in the processor of a computer, only the human brain is far more complex!”

“I don’t understand what you mean,” Xiao Li interrupted.

“It is rather abstract” admitted Professor Ho. “Let me try to make it more concrete. When you look at a tree, the image formed in your mind is really composed of tens of thousands of different neurons all firing electrical impulses at the same time in precise patterns. Some are telling you the leaves are green, others are saying the trunk is brown, still others indicate the curve of the branches. The sum total of these electrical impulses is integrated at a higher level into the picture in your mind. But the ‘picture’ is really just a huge set of electrical impulses in your brain.”

“That’s still very hard to understand!” complained Xiao Wang.

“If it’s hard to understand, it’s even harder to understand why some people believe the whole system happened by chance!”

“I already don’t believe it happened by chance” Xiao Wang admitted. “I understand that now. My problem before was that I had just blindly believed my textbooks and the newspapers. But now I see.”

Professor Ho smiled warmly. “In the area of brain information, animals and humans are basically the same, only humans are generally more complex than animals and have some special brain areas, like those devoted to language processing, which no animal has. Like the body, the brilliant information technology *design work* of God is quite obvious when we think about our mind. But the *image* of God is not here either.

“Look at the right-hand circle. The image of God is in our spirits. It consists of at least three things: self-consciousness, free will, and moral discernment.”

“So what is ‘spirit’ made of?” Xiao Wang asked.

“The only honest reply I can give you is, ‘spirit is made of spirit!’ I can’t define it any better than that. But now

^B The Bible usually uses the term “soul” to cover both soul and spirit. See Appendix 2-1 for a discussion.

you will accuse me of empty metaphysics.”

“It certainly sounds like it!”

“Actually it’s not. It’s just a confession of the limits of our knowledge. Let me illustrate from physics. If I ask you ‘what is matter made of,’ how would you answer?”

“Matter is made of protons, neutrons, electrons, and a whole lot of other sub-atomic particles.”

“Yes, protons and neutrons are made of ‘quarks,’ so the physicists tell us; and electrons?”

“If I remember my physics correctly, electrons are not made of anything. They are a fundamental particle.”

“Yes, at present, most physicists seem to think that way. Of course that could change at any time with new discoveries. But if we allow that electrons are fundamental particles, not made up of anything else, then what *are* they?”

“Well, you can describe their properties, like their mass and their electrical charge.”

“Quite so, you can describe some of their properties. But you can’t tell me what electrons are ‘made of.’ They aren’t ‘made of’ anything else, as far as we can tell. ‘Spirit’ is the same. I can’t tell you what it’s made of—it seems to be a fundamental entity in itself. But I *can* tell you something about it’s properties: self-consciousness, freedom, moral discernment. These are the things characteristics which we share with God; these are the things which make us absolutely different from the highest animals.”

Xiao Wang was skeptical. “How can you be so sure we’re *absolutely* different from animals? Maybe we didn’t come from apes, but I still think we seem like a ‘highly developed animal.’ You said chimps don’t have language, but if they *could* talk, they might not even agree that we’re better than them, much less absolutely better. After all, monkeys don’t send bombs to kill civilians in other countries like people do!”

“True, but that’s just my point: animals *can’t* make machines like people can because we are fundamentally different!” Professor Ho sighed. “It’s a grim thing to go through life thinking that you’re just a ‘highly developed animal.’ If that were true, how could there be any meaning to life, or any right and wrong? Everything would just be instinct!” He dropped his eyes and shook his gray head, murmuring to himself, “Such a sad and crazed generation that needs to be *persuaded* that they aren’t animals! Pity them.” He looked up at Xiao Wang again. “No matter what anyone says, everyone actually believes humans are different from animals. I can use an everyday example to prove it.”

The difference between humans and animals: Free will and moral responsibility

“If your neighbor’s dog, even though he eats well every day, still steals a piece of meat from your kitchen, you will say: ‘He’s a bad dog!’ If your neighbor, even though he has no financial lack, still steals money from your bedroom, you will say ‘He’s a bad man!’ Although both are ‘bad,’ you will still distinguish between them two different kinds of ‘bad,’ won’t you?”

Xiao Li agreed. “The ‘bad’ man is morally bad; he’s doing what everyone knows is wrong. The ‘bad’ dog is just doing something that you don’t like but which comes naturally to him. You would blame his master for not controlling him better.”

“Exactly. A dog is ‘bad’ because he has not received good training. We will not regard the dog as disobedient to morality; we will not give him a lecture on morality! How would you feel if you saw the master of the dog lecturing him: ‘How could you do such a thing? That was immoral! Shameful! You need to learn how to act properly’ ”

Xiao Li and Xiao Wang both laughed out loud. “I’ve actually seen people yelling at their dogs like that!” said Xiao Wang.

“Yes, we’ve all seen people do it—I confess I’ve even done it to my own dog once or twice—but it’s ridiculous! Lecturing a dog about morals is truly casting your pearls before swine. A dog is completely controlled by his instincts and his environment, and we all know that. He does not have free will, and because of that, we do not hold him morally responsible for his actions.”

“But people are different. No matter what kind of influences a person had when he was young, we will still feel he has some amount of moral responsibility. Even if the environment he grew up in was very evil, he still has the ability to distinguish between right and wrong. If a thief’s shoes are stolen by his friend, he too will complain that this is wrong! This demonstrates that even a thief knows theft is wrong. Some of a person’s moral judgments might be wrong due to a bad upbringing, but he will still make moral judgments; everyone does! The Bible says:

Therefore you are without excuse, every man *of you* who passes judgment, for in that you judge another, you condemn yourself; for you who judge practice the same things. [Romans 2:1 NAS]

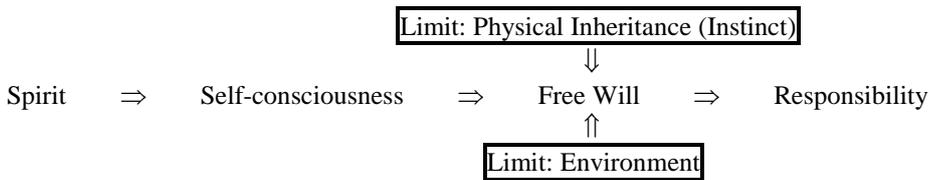
Every human being is constantly passing judgment on other people. That includes people we think of as morally de-based.

“Why is it that even criminals can pass judgment on other criminals? It is because we all know that people have free will. People can choose to sin or to do good. Therefore everyone is responsible for his or her own choices. If we really thought otherwise, we would never complain about anyone or accuse them of doing something wrong. *Every* time we accuse someone else, we imply that they have moral discernment *and* the free will to choose to do what is right. Did you ever think about that, Xiao Wang?”

Xiao Wang was silent for a moment, thoughtful. He was a member of his generation, so he’d always claimed that right and wrong were relative and that people were just animals operating on instinct. He thought about how he’d reamed his roommate out the night before for borrowing one of his shirts without asking and returning it torn and dirty. Every accusation he’d hurled at him—sneaky, selfish, excuse making—had all meant that Xiao Wang himself believed there was a common standard for right and wrong which his roommate had freely chosen to violate. It was so obvious,

yet it came as a revelation to him.

Seeing Xiao Wang didn’t reply, Professor Ho went on. “In fact we all believe in both morality and freedom. We know that, although people cannot avoid being *influenced* by their environment and instincts, nonetheless they are not *controlled* by their environment and instincts. Consider this simple diagram.”



“Because we have a spirit, we have self-consciousness. We know we exist. Because we have self-consciousness we are able to objectively consider the impressions and feelings which come from our instincts and environment, and make a willful choice about what to do about them.

“When a dog is hungry and sees a piece of meat, the only thought in his mind is ‘Hunger!’ Unless another instinct intervenes, he will go and eat the meat. Sometimes a stronger, conflicting instinct arises, like ‘Fear!’ because of the sight of a lion eating the meat, and it overcomes the ‘Hunger!’ instinct. The instinct which overcomes the ‘Hunger!’ thought might have been trained into him, like ‘Fear!’ because of his master’s beating him the last time he took meat from the kitchen counter. But either way, he is controlled by instinct and environment. He doesn’t have the concept of ‘I’; he doesn’t know that he exists. Therefore he is not able to critically examine his feelings or instincts and then decide what to do. He simply follows whatever instinct is strongest at a given moment.

“A human being is different. When we are hungry, we think ‘I am hungry.’ We can differentiate our feelings from our selves and consider them objectively; then we can choose what to do. We may think, ‘I am hungry but I will not eat now because I want to lose weight,’ or ‘I am hungry, but I want to fast and pray today.’ The key difference is being able to distinguish between your self, ‘I,’ and your feelings and thoughts. Without that, freedom is impossible.

“Our freedom of choice is not unlimited, however. Our physical condition limits us.” Professor Ho stuck his arms out on either side and waved them up and down in the air. “No matter how hard you flap, flap, flap with your arms, you’ll still never be able to fly!” Xiao Wang and Xiao Li laughed out loud.

Professor Ho was grinning too. “Our bodies weren’t made to fly. But within their limitations, you can choose to run, walk, crawl or sit. That’s limitation due to physical inheritance. Of course, our external circumstances also limit us. None of us choose where or what family we are born into. Many intelligent, hardworking children in rural areas never get to high school because their families are simply too poor to send them. But within that limitation, the child *can* choose to live an honest life as a farmer, or to become a lazy thief.

“I’m only stating what we all believe: human beings have a range of freedom of action, limited by inheritance and environment, to be sure, but within those limits truly free. And because we are free to choose, we are responsible for our choices—morally responsible.”

Xiao Wang had listened with growing impatience. Now he burst out: “How do you know self-consciousness and free will comes from your spirit? And how do you know animals don’t know that they exist and don’t make free choices?”

“Let’s consider those questions one by one. How do I know that self-consciousness comes from the spirit? I know it because the Bible teaches it,^C and I am convinced that the Bible is objectively true. But I realize that won’t be persuasive to you at this point.”

“No. Not at all. I’m barely sure there’s a God!”

“Of course. So consider it from the other side: Let’s assume there is no spirit, only matter. No mind, only brain, like a computer. That’s the materialism you’ve always been taught.”

Xiao Wang disagreed. “But my teachers said—and Marx said it too—that the material brain gives rise to consciousness.”

“Including *self*-consciousness?”

Xiao Wang hesitated. “I never thought about it before, but, logically speaking, of course it would.”

“Very good. I don’t believe that, of course, but let’s pretend for a moment that it is true and see where it leads. It leads to despair.”

“Why?”

“Consider the implications of an honest, thorough-going materialism. According to materialism, all of our thinking, including self-consciousness and choice, comes from matter, from electrochemical reactions in the brain. That means the choices you make are just a reflection of an particular instant of brain chemistry, just like the changing display on a computer screen is a reflection of the movement of electricity in it’s microchip ‘brain.’ But where did the brain chemistry come from? The basic structure of your brain was determined by your genes, and then influenced by inputs from your environment. But you didn’t choose either of those things; they shaped you, you didn’t shape them. Where is the

^C Proverbs 20:27 The spirit of man is the lamp of the LORD, Searching all the innermost parts of his being. 1 Corinthians 2:11 For who among men knows the *thoughts* of a man except the spirit of the man which is in him? Even so the *thoughts* of God no one knows except the Spirit of God. [NAS]

freedom in this system? Your thoughts, including your choices, are just like display on a computer screen. They inevitable reactions to your environment: the ‘Q’ key is pressed and a ‘Q’ appears on the screen.”

“But human brains are different,” interrupted Xiao Wang.

“Why?”

“Because they’re alive.”

“Why is that different? It’s still just chemistry and physics.”

Xiao Wang was silent.

Professor Ho continued. “The realization that philosophical materialism—or more simply, atheism—leads to determinism is not a new conclusion. Here’s an example from half a century ago by a scientist who was himself critical of the idea:

Before science, man used to think himself a free agent possessing free will. Science gives us, instead, causal determinism wherein every act is seen to follow inevitably from preceding patterns of brain excitation. Where we used to see purpose and meaning in human behavior, science now shows us a complex bio-physical machine composed entirely of material elements, all of which obey inexorably the universal laws of physics and chemistry....³¹

Of course what he calls ‘science’ in the quote above is not by any means some proven, scientific fact, but simply the worldview of materialism. But he’s quite right that the logical conclusion of materialism is that there’s no such thing as human freedom. Your mind is just a series of chemical reactions which arose from a billions-of-years-long, blind series of physical causes and effects.

“Extrapolate backwards: you were once a baby, before that a fetus, initially a single fertilized cell. Everything that happened to you as you grew and developed was a series of chemical reactions determined by your genes and your environment. There’s no point in that process where something like ‘free will’ would suddenly pop into existence. Everything is determined by a closed, controlled sequence of physical cause and effect. The so-called ‘choices’ you made yesterday were caused by what happened to you the day before, and the day before that, and so on in an unbroken chain of purely material cause and effect which was inevitable, a necessary outcome of the shape of the universe at the moment of the Big Bang—if that’s the way it really started. The logical conclusion of materialism is: Determinism. Fate.”

Xiao Wang had looked more and more uncomfortable as Professor Ho went on. Now he asked in an irritated voice: “What’s your point? Why do you bother saying all this?”

“Just this. I want you to feel the despair of living in the materialist prison cell so that you’ll be motivated to get the door open and escape. Materialism means no free will, no real choices, no meaning, no purpose in life. We find that idea intolerable as human beings, because we really do have a soul, and we long for our life, our actions to be meaningful. The only way out of the iron cage of materialism is to realize that there humans have a free, immaterial spirit which makes real choices, unconstrained choices. Remember that the next time you ask yourself, ‘do I really have a spirit?’

“In reality, there’s no reason to think a physical system would ever attain self-consciousness. No scientist or philosopher has ever demonstrated how a physical object, no matter how complex, could give rise to self-consciousness. Even at the most abstract, theoretical level they have no idea how it could happen.³² In fact it never could. ‘Matter produces (self-)consciousness’ is the baseless faith of atheistic materialism, just like ‘chance produces life’ is the baseless faith of the theory of evolution.”

Xiao Li spoke up. “What about animals then? How do you know they don’t have consciousness?”

“Note I said animals don’t have ‘self-consciousness,’ not ‘consciousness.’ Dogs are conscious of the things around them and of the feeling of their body; so are fish. But they aren’t *self-conscious*; your dog never quoted Descartes to himself, ‘I think therefore I am.’ ”

“But how do you know?”

“On the one hand, nothing in the Bible fits with the idea that animals have immortal, immaterial, morally responsible souls. There’s no mention of them facing judgment and going to heaven or hell. On the other hand, the observable behavior of animals does not fit with their having souls. Remember the example I gave about the dog stealing the meat? Do you think he should be held morally responsible?”

“I guess not.”

“Then you don’t really believe that he has a soul. Otherwise you would hold him responsible for his actions. You don’t really believe that he says ‘I’ in his thoughts, or you would expect him to have free will and to be able to deny his instincts in order to do what is morally right. But animal behavior never exceeds instinct and environment (including training from his master).

“You mustn’t confuse emotions with self-consciousness and free will. Higher animals certainly do have emotions. But they can have emotions without self-awareness. The dog being yelled at by his master hangs it’s head. It instinctively dislikes disapproval from the ‘leader of the pack.’ In it’s brain is the feeling ‘Sad,’ but not the thought ‘I am sad.’ Later on, it will remember that the action of taking meat off the table was associated with the feeling of disapproval by the master, and it’s instinctive fear of disapproval from the ‘leader of the pack’ will make it afraid to take things from the tabletop again—if the fear is strong enough. That just depends on enough training from the master. But in all of this, there is nothing which indicates self-consciousness or a soul. In it’s mind there is no ‘It is wrong to steal; therefore, I will not take the meat.’ There is not even ‘I am afraid; therefore, I will not take it.’ There is only ‘Fear.’ Frankly, we all think that way, otherwise we would hold dogs morally responsible and drag them into court if they stole our dinner!”

“I still don’t see how you can know for sure animals don’t have a soul,” Xiao Li persisted.

"In reality, I don't have to persuade you, because you already agree dogs don't have souls."

"How do you know?"

"If I remember correctly, Xiao Li, you're from southern China?"

"Yes."

"So to keep healthy in the winter, what kind of soup do you eat?"

"Why of course—umm—that is..."

"Dog soup, isn't it?"

Xiao Li looked down with a bemused, almost embarrassed look on his face.

"So perhaps we don't need to spend too much time discussing whether animals have a soul, since we both don't believe they do!" concluded Professor Ho.

Xiao Wang spoke up. "Lots of Buddhists think they do. And in any case, you admitted yourself that they have feelings. Why did God give them feelings? Just to let them suffer?"

"You bring us right back to the question we asked when you first came today, Xiao Wang, the question everyone has asked: If there is an all-powerful and good God, why is there so much suffering in the world? Why do innocent animals suffer? Why do humans suffer?"

"Yes, why? It seems to contradict what you Christians believe."

"Actually, it is an integral part of what we believe. As I mentioned before, it's explained on the third page of the Bible. Now that we understand what a human being is—a body, a soul, and a spirit with free will—we can answer your painful question."

If God is good and all-powerful, why is the world full of evil and suffering?

Professor Ho sat back in his chair and stared over the boy's heads out the window. "God is good; God is almighty; God made this world, and placed us in it. Then why is there so much suffering all around us, and in our own lives? Is this what He intended for us? In the happiest of lives, the movie stars and millionaires, there is still always trouble—broken relationships, failed hopes, physical pains. And in unhappiest of lives, the beggars on the street, there is nothing but poverty, sickness, handicap, and rejection by others, even by one's own family. Why is there so much suffering in the world?"

"Even if we get through this life as smoothly as possible, looming in the end there is always—death. Really thinking about death makes us feel empty inside. After a little while, we will certainly die; a little longer, and no one will remember us. Human life seems meaningless. Death is a universal phenomenon, but we usually pay no attention to it. We are not willing to face it. In the end, we cannot escape it."

"Meanwhile, humans themselves are an astonishing bundle of contradictions. Using the amazing minds and bodies that God has given them, they are capable of the most brilliant technological advances, of the most noble and self-sacrificing deeds—a mother Teresa devoting her entire life to helping others, a Pasteur diligently seeking out the secrets of Nature to cure rabies! At the same time, we are capable of acts of cruelty and savagery unknown among the beasts, some even torturing innocent people to death. Most of us feel like we fall somewhere in between these two extremes, but all of us, even the very best, often violate our own moral consciences. We willfully do what we know is wrong, or we lazily fail to do our duty. This is what the Bible calls 'sin.' Why is it in our hearts? Where did it come from?"

Xiao Wang and Xiao Li listened in silence. Professor Ho shifted his gaze back down to them. "These three things—suffering, death, and sin—are universal phenomena. They make our lives miserable. Is this the world God intended for us? A world where little girls in Thailand are sold into prostitution by their own parents, a world where invading armies loot and rape and kill as they exult in their victory, a world where schoolchildren are crushed to death in the rubble of their collapsed school buildings after an earthquake, a world where the end for everyone is death—is this the world that God intended? Where is He, and what is He doing?"

Xiao Wang knit his brows and looked pained. "That's just what I can't understand! If the God you're talking about created the world, why is it such a mess?"

Professor Ho looked at him sympathetically and nodded. "The answer is that the world which you see is not the world as God originally made it. It's a changed world, a fallen world, a cursed world. And it all happened because human beings chose to rebel against God, chose to sin."

"Here's the history of it. At the end of making everything, God spoke to human beings and blessed them:"

28 God blessed them; and God said to them, "Be fruitful and multiply, and fill the earth, and subdue it; and rule over the fish of the sea and over the birds of the sky and over every living thing that moves on the earth."

29 Then God said, "Behold, I have given you every plant yielding seed that is on the surface of all the earth, and every tree which has fruit yielding seed; it shall be food for you; 30 and to every beast of the earth and to every bird of the sky and to every thing that moves on the earth which has life, *I have given every green plant for food*"; and it was so. 31 God saw all that He had made, and behold, it was very good. And there was evening and there was morning, the sixth day. [Genesis 1:28-31 NAS]

"The original world as God made it was 'very good.' There was no pain, no suffering, no disease, and above all no death. It was fundamentally different from what we see today. Even animals did not die, and none of them ate meat. This was the world which we all, in our heart of hearts, long for, the world as we imagined it was when we were small children, the world we somehow instinctively feel 'should be.'"

"God gave them only three rules, two positive: 'be fruitful and multiply,' 'rule over the earth,' and one negative:

15 Then the LORD God took the man and put him into the garden of Eden to cultivate it and keep it. 16 The LORD God commanded the man, saying, "From any tree of the garden you may eat freely; 17 but from the tree of the knowledge of good and evil you shall not eat, for in the day that you eat from it you will surely die." [Genesis 2:15-17 NAS]

The one thing forbidden to them was eating the fruit from one tree out of the many in the Garden. They were completely able to obey this command; there were plenty of other things to eat! It was entirely a matter of their free choice to obey or disobey.

"They chose to disobey, and then the world changed:

1 Now the serpent was more crafty than any beast of the field which the LORD God had made. And he said to the woman, "Indeed, has God said, 'You shall not eat from any tree of the garden?'" 2 The woman said to the serpent, "From the fruit of the trees of the garden we may eat; 3 but from the fruit of the tree which is in the middle of the garden, God has said, 'You shall not eat from it or touch it, or you will die.'" 4 The serpent said to the woman, "You surely will not die! 5 "For God knows that in the day you eat from it your eyes will be opened, and you will be like God, knowing good and evil."

6 When the woman saw that the tree was good for food, and that it was a delight to the eyes, and that the tree was desirable to make *one* wise, she took from its fruit and ate; and she gave also to her husband with her, and he ate. 7 Then the eyes of both of them were opened, and they knew that they were naked; and they sewed fig leaves together and made themselves loin coverings.

8 They heard the sound of the LORD God walking in the garden in the cool of the day, and the man and his wife hid themselves from the presence of the LORD God among the trees of the garden. 9 Then the LORD God called to the man, and said to him, "Where are you?" 10 He said, "I heard the sound of You in the garden, and I was afraid because I was naked; so I hid myself." 11 And He said, "Who told you that you were naked? Have you eaten from the tree of which I commanded you not to eat?" 12 The man said, "The woman whom You gave to *be* with me, she gave me from the tree, and I ate." 13 Then the LORD God said to the woman, "What is this you have done?" And the woman said, "The serpent deceived me, and I ate."

14 The LORD God said to the serpent, "Because you have done this, Cursed are you more than all cattle, And more than every beast of the field; On your belly you will go, And dust you will eat All the days of your life; 15 And I will put enmity Between you and the woman, And between your seed and her seed; He shall bruise you on the head, And you shall bruise him on the heel." 16 To the woman He said, "I will greatly multiply Your pain in childbirth, In pain you will bring forth children; Yet your desire will be for your husband, And he will rule over you." 17 Then to Adam He said, "Because you have listened to the voice of your wife, and have eaten from the tree about which I commanded you, saying, 'You shall not eat from it'; Cursed is the ground because of you; In toil you will eat of it All the days of your life. 18 "Both thorns and thistles it shall grow for you; And you will eat the plants of the field; 19 By the sweat of your face You will eat bread, Till you return to the ground, Because from it you were taken; For you are dust, And to dust you shall return."

20 Now the man called his wife's name Eve, because she was the mother of all *the* living. 21 The LORD God made garments of skin for Adam and his wife, and clothed them. 22 Then the LORD God said, "Behold, the man has become like one of Us, knowing good and evil; and now, he might stretch out his hand, and take also from the tree of life, and eat, and live forever" -- 23 therefore the LORD God sent him out from the garden of Eden, to cultivate the ground from which he was taken. 24 So He drove the man out; and at the east of the garden of Eden He stationed the cherubim and the flaming sword which turned every direction to guard the way to the tree of life. [Genesis 3:1-24 NAS]

Adam and Eve's Choice: Two Ways to Learn Good and Evil

"A few things here need clarification. It was Satan who tempted Eve, not a snake. The snake was an ordinary animal, but obviously quite different from the ones we see today. It's basic body pattern was changed after God cursed the earth and now snakes slither on their bellies. It also may have had a much greater mental capacity in the past. Perhaps it was able to imitate human speech, the way certain birds can.

"All that is speculation. What we can confidently say is Satan either used the body of a snake, or appeared in the form of one, to tempt and deceive Eve."

"Who is Satan? Where did he come from?" Xiao Wang asked.

"A good question! The Bible is not explicit, but most scholars think it indicates Satan was originally an angel, perhaps the highest of the angels. Like human beings, he had free will. He became proud and tried to do what he tempted Eve to do—to be like God. But the result for him, like for humanity, was that he fell into a cursed state of separation from God. In his resentful hatred, he attacked God by tempting humans to sin.

"What a grand promise Satan made! And what a terrible lie he told! 'You will be like God'! But that was impossible. They could never have become uncreated beings who had always existed, nor all-knowing, nor all-powerful. But first Eve, then Adam, both decided to try. The result was they became like Satan: sinful and separated from God.

"They did come to know good and evil. Before that they had been moral infants. They didn't even know that they were naked, which is not the natural condition for adult humans. There was only one area where they really could exercise moral discernment: they knew that they were not supposed to eat from the tree of the knowledge of good and evil."

“But why did forbid them to eat that?” Xiao Wang asked. “You said He made humans with the ability to make moral judgments because of their spirits. So why didn’t God want them to use it?”

“I believe God certainly wanted them to use their moral consciences and develop their moral discernment. But God wanted them to know good and evil the way He does—by consistently choosing good. They got to know it the way Satan does—by choosing evil.”

Xiao Wang disagreed. “I don’t think you could know what good is without experiencing evil.”

Professor Ho shook his head. “People often say that, but God has always been good without ever doing evil. He was good before He made anything else, before Satan ever sinned. ‘Good’ is defined by His character; what He is, is good.

“It isn’t that God didn’t want them to be able to discern good from evil. It’s that He wanted them to learn how to do it through obedience, not disobedience. We see the same thing in everyday life all the time. Think of two schoolboys in elementary school. Both of them like to play much more than they like to study. Neither of them has much concept of what college is, and as for a job, it seems to be something that adults do all day that looks very boring. Both of them hear the short, chubby, gray haired old lady teacher say ‘Study hard, or you’ll regret it later! If you don’t study hard, you won’t be able to get into college and you won’t get a good job.’ Both boys hear the same message. One thinks to himself, ‘Even though I like to play rather than doing homework, I’ll study hard so I can get into college and get a good job!’ He goes home after school and diligently does his homework. The other boy thinks to himself, ‘I don’t like to study! I’d rather play. Who cares about college? That’s just more studying, and I don’t like to study. I don’t care about what job I get!’ So he goes out to play after school.

“Fast forward a few years. The second boy, the one who chose not to study, wasn’t able to get into high school. So looked around for a job for a long time, and finally found a very low paying job cleaning up bits of material from a factory floor twelve hours a day. The other boy continued to study diligently, went to college and got a decent job after he graduated.

“The boys run into each other again when they are 25 years old. They discuss old times, especially the old lady elementary school teacher they both remember so well. The diligent boy, dressed in fine clothing and standing next to his car, says with a thankful smile, ‘What she said was really true! I had to take her word for it then, but now I know by experience that if you don’t study, you’ll regret it.’ The lazy boy hangs his head and stares down at his shabby, cracked shoes. He says ‘What she said was really true! I chose to ignore her then, but now I know by experience that if you don’t study, you’ll regret it.’ You see, both boys have learned from their own experience how to discern good and evil. They no longer need anyone to tell them they should study hard, or they’ll regret the consequences. But one learned by obeying the rule he heard, and the other by disobeying it.

“It’s the same with Adam and Eve. They could have begun to learn moral discernment by resisting Satan’s temptation and choosing to obey God. The Bible doesn’t say, but I think it follows logically that after obeying they would have seen the results and begun to discern good and evil. Instead, they chose to learn good and evil by doing evil. The consequences were horrible.”

Adam and Eve’s Choice: Love, Free Will, and God’s Purpose in Making Humanity

“But what was the point of making the Tree of Good and Evil in the first place?” exclaimed Xiao Wang. “If God had just never made it, humans could have lived fine in the Garden, happy and naked, in ignorance.”

“Many people ask that question,” replied Professor Ho. “God made the Tree so that Adam and Eve would have an opportunity to demonstrate their love for Him by obedience. This gets at the deeper question of why God made us in the first place.”

“Yes, I’d like to know that!” said Xiao Wang, but, still very much doubtful, he added, “—or at least know what the Bible says about it!”

“I understand your longing to know that; obviously the myth of evolution doesn’t give you any reason for being here! But the truth of the Bible will satisfy your heart. To know why God made us, you need to ask what our function is. God tells us in the Bible that we have two primary functions. One day someone asked Jesus:

36 “Teacher, which is the great commandment in the Law?” 37 And He [Jesus] said to him, “ ‘You shall love the Lord your God with all your heart, and with all your soul, and with all your mind.’ 38 “This is the great and foremost commandment. 39 “The second is like it, ‘You shall love your neighbor as yourself.’ ” [Matthew 22:36-39 NAS]

Love God; love other humans. Since those are the two greatest commands, those must be the two main reasons why we are here. We are here to love. It says in the Bible that God Himself *is* love. The three Persons of the Trinity loved each other eternally before anything else was created. God is full of love and overflowing with it. It seems that He made human beings so that He would have more targets for His love and receive more love back from them.”

“That sounds beautiful,” admitted Xiao Wang, “but what has that got to do with the tree and forbidding them to eat from it?”

“The tree was Adam and Eve’s chance to show love for God. Perhaps here I need to define what I mean by ‘love.’ Love is a choice of the will to seek the good of another. It’s focused on what the other person needs, on the other person’s good. Of course, I’m not talking about romance. That’s an emotion which is linked to our sexuality. It should have love with it; sadly, often it does not, and when the emotion fades, romance simply leaves two people bitter because they refuse to choose to love each other!

“Love is a choice of the will to seek the good of another. How could Adam and Eve seek God’s good? What would be good for God? God didn’t have any *needs* that they could meet for Him; He is full and overflowing! What could they do which would show love for God? There was one thing: they could freely choose to obey His commands.

“Remember God had given them three commands: reproduce; rule the earth; and don’t eat from the Tree. The first command, reproduce, has a powerful instinct associated with it. The bodies of human beings desire sexual activity, and our souls desire to have children. By the way, their sin had nothing to do with sex; they had already been commanded to do that! The second command, rule the earth, is also in accordance with our natural desires. We are curious and enjoy learning about the world. We are creative and like to build, to use our minds to order Nature in beautiful ways. Fulfilling God’s first and second commands would not have required Adam and Eve to love God, to seek God’s good. Natural inclination would lead them to do the things required by the first two commands.

“But the third command was different. It cut across their natural desires. It cut across their body’s desire to eat: ‘the tree was good for food.’ It cut across their mind’s desire to investigate Nature and to possess beauty: ‘it was a delight to the eyes.’ Here alone they had a chance to show love for God by denying their natural desires in order to seek God’s good, for God had commanded them not to eat it, and so they understood that it was good for God if they did not eat it. This was the one area of morality that they already saw clearly, the one place where they already knew good and evil.

“I’m sure God had a reason for using a forbidden fruit. But, in theory at least, it wouldn’t have made any difference what He used. The issue isn’t *what* was forbidden. The issue was whether or not they would choose to obey, to love God. When Adam and Eve freely chose to say ‘No!’ to God and ‘Yes!’ to sin, they were refusing to love.”

Xiao Li looked solemn. “Sometimes I think it would have been better if God hadn’t given them free will. Then we wouldn’t have this terrible mess!”

Professor Ho shook his head. “If there had been no free will, there could not have been love. They would have been robots, not people. They would have obeyed God’s rules the same way rocks obey the law of gravity—blindly and without choice. Love is a choice of the will to seek the good of another. But if you have no free will, you can’t choose!

“Consider an example. Doubtless there is a computer in your dorm room. You could easily program it so that every time it turns on three words in red letters flash on the screen in succession: ‘I’ then ‘love’ then ‘you.’ You could even add a sultry woman’s voice saying at the same time,” here he lowered into a romantic whisper, “‘I—love—you!’” The boys laughed. “Would you feel loved?” queried Professor Ho.

“No, of course not,” said Xiao Wang.

“Why not?”

“Because it would just be something I’d programmed myself!”

“Exactly. The same is true of God. He easily could have ‘programmed’ people to obey, but there wouldn’t have been any choice, so there wouldn’t have been any love. It’s either freedom, or no love. To say ‘It would have been better to make human beings without free will’ is like saying ‘It would have been better if you had made me this cup of tea without using tea leaves.’ Humans without free will would not be humans, and they could not love.

“But where there’s real free will, there’s always the possibility that people will choose *not* to love. Adam and Eve chose not to love but to disobey, and it brought terrible consequences to the entire human race.”

The Consequence

8 They heard the sound of the LORD God walking in the garden in the cool of the day, and the man and his wife hid themselves from the presence of the LORD God among the trees of the garden. 9 Then the LORD God called to the man, and said to him, "Where are you?" 10 He said, "I heard the sound of You in the garden, and I was afraid because I was naked; so I hid myself." 11 And He said, "Who told you that you were naked? Have you eaten from the tree of which I commanded you not to eat?" 12 The man said, "The woman whom You gave to be with me, she gave me from the tree, and I ate." 13 Then the LORD God said to the woman, "What is this you have done?" And the woman said, "The serpent deceived me, and I ate." [Genesis 3:8-13 NAS]

“What does it mean that God was ‘walking in the garden,’” Xiao Wang asked. “I thought you said He doesn’t have a body.”

“He certainly doesn’t, but at times in the Bible we find Him temporarily appearing in what seems to be a body. Obviously this was to facilitate his communication with Adam and Eve. It was not difficult for the Creator of bodies and matter to either temporarily put one together, or to create the appearance of one in the minds of Adam and Eve.

“What’s significant here is how they response to the sound of His coming. They were obviously used to talking with Him in the garden. It must have been their greatest delight to tell Him what they had seen and done that day, and ask Him questions. But this time they run and hide, like a small child running when he hears the sound of his father coming after he’s broken a vase he knew he was not allowed to play with.”

“Why does God have to ask them if they’d eaten from the tree?” inquired Xiao Li.

“He wasn’t asking in order to get information,” Professor Ho explained. “He was like a parent who was in another room and saw from a distance the child knock over the vase. He comes into the room and says, ‘What happened here?’ not to gain new information, but expecting a confession. And as often as not, the child, cowering in a corner, says something like ‘I don’t know! The vase fell!’ Adam and Eve acted like guilty children. There was no denying they had eaten the fruit, but each of them tried to pass off the blame as much as possible. Adam tried to blame the woman for giving the fruit to him and blame God for giving Him the woman! Eve tried to blame the snake. Already their na-

ture was corrupted and they were trying to accuse others and excuse themselves.”

Professor Ho paused and sighed. “There’s the picture of humanity ever since! Guilty, trying to cover their shame with a fig leaf, trying to make excuses for their sins, and, above all, hiding from God who is the only source of love and happiness because now they fear His justice and His anger.”

Professor Ho looked at Xiao Wang solemnly. “I tell you the truth, Xiao Wang. At the very center of your being is an intense desire to experience the Father love of God. He created you with that longing. It will never be satisfied unless you come to know Him. We spend our lives hiding in the bushes, ignoring God, even pretending He does not exist. But the only result is we grow more and more miserable as the years go by. And in the end, we are dragged out to face His judgment.”

The Judgment and the Curse

14 The LORD God said to the serpent, "Because you have done this, Cursed are you more than all cattle, And more than every beast of the field; On your belly you will go, And dust you will eat All the days of your life; 15 And I will put enmity Between you and the woman, And between your seed and her seed; He shall bruise you on the head, And you shall bruise him on the heel." 16 To the woman He said, "I will greatly multiply Your pain in childbirth, In pain you will bring forth children; Yet your desire will be for your husband, And he will rule over you." 17 Then to Adam He said, "Because you have listened to the voice of your wife, and have eaten from the tree about which I commanded you, saying, 'You shall not eat from it'; Cursed is the ground because of you; In toil you will eat of it All the days of your life. 18 "Both thorns and thistles it shall grow for you; And you will eat the plants of the field; 19 By the sweat of your face You will eat bread, Till you return to the ground, Because from it you were taken; For you are dust, And to dust you shall return."

20 Now the man called his wife's name Eve, because she was the mother of all *the* living. 21 The LORD God made garments of skin for Adam and his wife, and clothed them. 22 Then the LORD God said, "Behold, the man has become like one of Us, knowing good and evil; and now, he might stretch out his hand, and take also from the tree of life, and eat, and live forever" -- 23 therefore the LORD God sent him out from the garden of Eden, to cultivate the ground from which he was taken. 24 So He drove the man out; and at the east of the garden of Eden He stationed the cherubim and the flaming sword which turned every direction to guard the way to the tree of life. [Genesis 3:14-24 NAS]

“The judgment was fair: God had clearly warned them what would happen if they disobeyed, and they were perfectly able to choose obedience. They chose disobedience and the punishment was death, two kinds of death: physical and spiritual.”

Physical Death and Spiritual Death

“Physical death is easier for us to understand: the marvelous living machine that is our body breaks down and no longer functions. The matter of which our bodies are composed continues to exist after we die, of course, but it disintegrates and no longer performs the functions necessary for life. The result is a person’s spirit and body are separated, and the body decays to dust. This was not a part of God’s original plan. As God originally made the universe, humans never would have died. Death is not natural; it is the most unnatural of things, the result of the Curse.

“Adam’s and Eve’s bodies did not die until many years after they sinned, but the process of decay in their bodily functions began on the day they were cursed by God. From that moment on, the outcome was inevitable.

“Thinking about the death of our bodies helps us understand spiritual death. When our bodies die, they don’t stop existing; they just lose their function, their life. When our spirits die, they likewise continue to exist, but they lose their function, their purpose for existing. The reason humans were given a spirit was so we could have a loving relationship with God. But Adam and Eve broke that relationship when they chose to disobey. As soon as they sinned, they were afraid of God and wanted to hide themselves, to escape from God. They felt their own guilt and feared God’s punishment. They could no longer regard God as a loving Father—even though He still loved them. Cut off from God, they had lost the entire purpose of their existence.

“God had warned them, ‘in the day that you eat from it you shall surely die.’ And they did die that day! Their spirits died; it just took awhile for their bodies to catch up.”

Physical Results of the Fall: All of Nature Is Cursed

“But why must *we* die?” asked Xiao Wang. “Adam and Eve were punished for their sin. But why do we all die now? Even innocent little babies die sometimes. That doesn’t seem fair.”

Professor Ho nodded gravely. “The consequences of Adam and Eve’s sin were much graver and more extensive than we might imagine. You see, they were given authority over all of physical creation: ‘fill the earth, and subdue it; and rule over...every living thing that moves on the earth’ [Genesis 1:28 NAS]. When they chose to sin, they dragged the world down with them. The curse didn’t just fall on the two of them; God said, ‘Cursed is the ground because of you’ [Genesis 3:17 NAS]. The whole earth was cursed, the whole universe. The curse which guaranteed Adam and Eve’s eventual death was a fundamental change in the natural laws. Remember, their bodies were made of ordinary matter just like the bodies of animals. Any change in Nature which forced human bodies to eventually die would also cause the bodies of other living things to have to die. The curse affected everything at a fundamental level. The universe as we see it now is not same as it shortly after God created it. You must keep that in mind when you think about the phys-

ical suffering in the world.

“For example, one result of the Curse was the beginning of mutations, or at least of harmful ones.^{33, D} Mutations are mistakes in originally perfect genes, and as you know they cause all kinds of ugly, crippling, and even fatal congenital deformities. Cancer is also caused by mutations.

“Mutations are also probably the origin of most or all contagious diseases. Originally, all viruses and bacteria were harmless. Even today, most of them are harmless or helpful to humans and animals. But after God’s curse, viruses and bacteria began to mutate, with the result that a small proportion became disease causing. Notice that that was a downward change from their original perfect state. Unlike the friendly bacteria that normally live in your stomach, harmful bacteria have mutated until they tend to kill the very host that they depend on for survival! That’s certainly not an ‘evolutionary advance!’

“Animal behavior also changed. At some point after God cursed the universe, perhaps after Noah’s flood, some animals began to eat meat, and a small portion became exclusive meat eaters. But in fact, even today, there’s no animal that *needs* to eat meat to live.”

“That’s unreasonable!” Xiao Wang objected. “Look at the teeth of a lion! Obviously it was designed to kill and eat prey.”

“Perhaps,” admitted Professor Ho. “It may be that God changed things like the teeth of lions when He cursed the earth. But look at the teeth of a gorilla. What do you think they were designed to eat? Looks like a ferocious meat eater, doesn’t he? But actually gorillas eat fruit, leaves, stems, and roots, along with a small amount of insects (2%-3% of their diet).³⁴ You can’t tell a meat-eater by it’s teeth.”

“But in any case” persisted Xiao Wang, “there *are* animals which can’t survive without meat!”

“Like lions for example?”

“Obviously!”

“Have a look at these pictures. This lioness was raised by humans in the 1946-55. She grew to her full size of 160kg and lived nine years. She lived on grains, milk and eggs. She *never* ate any meat; she would refuse her milk if even a drop of blood was mixed in with it!³⁵ And this is not the only example of a vegetarian lioness.

A lioness born in Italy in the 1990s lived her first seven years on a diet of pasta, tomato sauce, cheese, potatoes, and vegetables.³⁶ When she was transferred to a zoo, she was able to quickly start eating meat—but she obviously had not *needed* it. Perhaps not every lion born could survive this way, but that can only be considered a *degeneration*—obviously it would be an advantage to survival to be able to live on vegetable sources instead of just meat! Specialized, meat only diets are an example of degeneration since the Curse. Originally, the capacity to live without meat was there, but most lions seem to have lost it.

“There are also examples of animals we normally think of as *not* eating hunting for prey or not even eating meat, adding it to their diet—such as the panda found killing and eating goats in Sichuan in 1992, or the sheep observed eating a bird in 2002.³⁷ These examples show us how carnivorousness can be added to an animal’s diet and behavior *without* any genetic changes. But in the beginning no animals were carnivores.

“Not only living things, but even inanimate creation has been cursed. The earth as God originally made it had no earthquakes, no tsunamis, no droughts, no typhoons. Natural disasters are one of the changes after the Curse, not part of the original plan.

“Those consequences are terrible enough. But the ones in our hearts are, if anything, even worse.”

Psychological Results of the Fall: Human Nature Has Become Evil

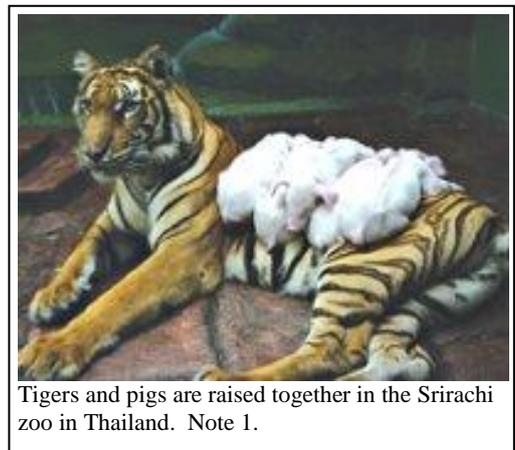
“When Adam and Eve chose to sin, their basic nature changed from good to evil. Consequently, all of their offspring have inherited not only a body which must die but also a sinful nature. At a minimum this means that we all very naturally tend to sin. We often feel that it is very easy to do what we should not do, and very hard to choose to do what we should. Humans are this way from birth.”

“I always thought children are born innocent, but then society corrupts them,” Xiao Wang objected.

“That’s a popular myth. But anyone who’s raised children should know that we do not need anyone to teach us how to take someone else’s toys, hit someone, or tell lies. Little children do this by them-



The vicious looking teeth of a gorilla are used mostly on fruit, leaves, stems and roots. Note 1.



Tigers and pigs are raised together in the Srirachi zoo in Thailand. Note 1.

^D Some of what we call mutations are actually designed mechanisms for producing variation. For example, when some bacteria are deprived of their usual food supplies and placed in cultures containing other chemicals, they purposely cause certain segments of their genomes to ‘mutate’ or vary at a much higher than normal rate, quickly producing a gene variation which restores an innate but formerly disabled function and allowing them to live on chemicals in the medium. This is usually called ‘mutation’ but is better understood as a designed mechanism allowing for the selective expression of pre-existing variation. See Note 33.

selves from very early on—beginning from less than two years old! It isn’t that ‘society’ corrupts them. ‘Society’ is just a word for a lot of people together. Society is corrupt because people are! Think about it: if humans were all basically good, when you got all those good people together into a society, they would help each other do good things and the society would be good too. A single grain of sugar is sweet; a thousand grains together is sweeter still! If people are basically sweet and good, why is it that when you get them together in a group called ‘society’ it tastes so bitter?

“Think of your own heart. As soon as you hear a rule or restriction, your natural reaction is to resist and to want to try to get around it. Though we usually cover it up, we have a rebellious nature! Worse than that, you know yourself that you’ve done things that you wish you hadn’t, things you’d be ashamed to have other people know about, haven’t you?”

Xiao Wang dropped his eyes. Professor Ho waited. “Well, who hasn’t?” Xiao Wang said at last.

“Everyone has—because we’re basically bad! Everyone finds it hard to overcome his own laziness, his own selfishness, his own dishonesty, his own lust. All of these tendencies are inside of us; that’s our sinful nature. Often, we choose to obey these tendencies; that’s our sin!

“Our nature tends toward sin, and moreover we choose to sin. The result is that humanity frequently chooses to hate, lie, steal, oppress, cheat, murder, and invade. These things happen both in interpersonal human relations and in international relations among nations.

“Because this earth and our bodies have been cursed, there will certainly be suffering in this world. But that suffering is greatly increased by human beings’ repeated choices to sin.

“When we face the reality of human life, we find that within us is evil and around us is suffering. We often feel that life is pointless; there seems to be no hope. And over everything, like an enveloping cloud, is death, which we fear but cannot escape.

“But there’s something even worse.”

Spiritual Results of Sin: Separation from God, Punishment in Hell

“Because of our own choices to sin—not Adam’s sin, but ours—we are cut off from God.

“On the one hand, we ourselves naturally detest Him. In our inner hearts we know we have not attained to His moral standard. We resent His ‘excessively high’ demands, and we resent that He wants to control our lives. We reject Him, and would rather worship idols—the ‘gods’ fabricated by humans; or else, what amounts to the same thing, we chose to be atheists and regard blind chance processes as our ‘creator.’

“On the other hand, God is cut off from us. Although He has created us, He does not acknowledge us as His children and is not willing to hear our prayers. He lets us go our own way toward self-destruction and death.

“The most frightening thing is that, in the end our spirits will be thrown into hell. There we will suffer the punishment we ought to receive for our sins, a ceaseless, eternal punishment. This is the final outcome of spiritual death.”

Is It Fair?

“The whole thing just doesn’t seem fair!” Xiao Wang burst out. “Adam and Eve sinned; we get a cursed body. Adam and Eve sinned; we get a sinful nature. Why should we have to suffer because of their sin? Why are we punished for them?”

Professor Ho replied calmly, “First we need to distinguish between the *consequences* of their sin and *punishment* for their sin. That you were born with a body which will die and came into a world where there is suffering is a long-term consequence of Adam and Eve’s sin. That’s not punishment; punishment is separation from God now and going to hell after death. We are only punished for our own sins, not for anyone else’s. We suffer the *consequences* of Adam and Eve’s sin, but we need not suffer the *punishment*. But it still seems unfair to you that Adam and Eve’s choices influence us, doesn’t it?”

“Yes, very unfair.”

“Actually it’s just a specific example of the inevitable principle that what our parents do will influence us. God has created families in which we can love one another, seek one another’s good. In order to love one another, we must be able to have an impact on each other. But if we are able to impact each other for good, we can also hurt each other. Our parents can do us good precisely because they also have enough influence over us to do us harm.

“Take yourself as an example. I see you are in college right now. Did your parents have anything to do with that?”

“Certainly some of the credit goes to them. They provided for me and encouraged me to study.”

“Yes, that was vital. We all know people who didn’t get very far in life because they were poorly brought up. And if your parents hadn’t carefully nurtured you?”

“Then I probably wouldn’t have made it to college.”

“True. So tell me, what virtuous acts did you perform before you were born to make you deserve such parents and such help?”

Xiao Wang just smiled. “I’m not a Buddhist,” he said at last. “I don’t believe in reincarnation.”

“Neither do I. So you did nothing to deserve such parents? Then you must feel very guilty! After all, isn’t it *unfair* that you should benefit from the *positive* choices that your parents made? But you don’t think it’s unfair, do you?”

“No.”

“Then you yourself recognize that it is inevitable that we will be influenced by our parents’ choices. I quite agree that parents *should* make good choices, and they are guilty if they make bad ones. I’m sure Adam and Eve felt guilty day after day for years as they watched the consequences of their sin unfold in the lives of their offspring. But you see,

if God was going to make a world where we could love our neighbor as ourselves, it had to be a world where what we do could hurt our neighbor, and that’s especially true of our own children.

Xiao Wang was not satisfied. “What right did God have to make such a world? What right did He have to make us at all? I think God was selfish!”

“Why?”

“Well, you said He was all-knowing, right?”

“Yes.”

“So didn’t He know beforehand that people would choose sin and then suffer?”

“Yes. He knows the future.”

“Well then, it was selfish of Him to make people, knowing how bad it would turn out, just so He could get more love!”

Professor Ho nodded calmly. “Modern people often raise that objection. That’s because we’ve been trained to think that we are the most important things in the universe! But there are three replies to your accusation that God is ‘selfish.’

“First, we can’t imagine how much bigger God is than we are. We don’t worry about violating the rights of bacteria when we wash them off our hands before we eat. They share some things with us—DNA, metabolism, etc.—but we realize we are so much higher than they that our desires are more important than their lives. God transcends us by even more than we transcend bacteria. He has the right to make us as He pleases:

You turn things around! Shall the potter be considered as equal with the clay, that what is made should say to its maker, ‘He did not make me’; or what is formed say to him who formed it, ‘He has no understanding’? ... Woe to the one who quarrels with his Maker—an earthenware vessel among the vessels of earth! Will the clay say to the potter, ‘What are you doing?’ Or the thing you are making say, ‘He has no hands’? [Isaiah 29:16, 45:9 NAS]

He transcends us the way we transcend a lump of clay! It really is foolish arrogance on our part to talk back to Him. But because you have not yet understood how far above you He is, this might not seem reasonable to you.”

“No,” said Xiao Wang with an edge of defiance in his voice, “He makes us and then He treats us like cheap clay pots. That just seems so arrogant!”

Professor Ho nodded sadly. “Yes, but that’s because you have not yet understood how small you are, and how big He is! But there is a second reason which might help you more.

“You need to remember that you are using the very mind that God created to criticize Him for creating it. You imply that it was ‘unfair’ for Him to make us, that it was ‘selfish.’ But that’s a moral judgment; in essence you mean that God was unloving, that He was not seeking our good, and you mean that that was a ‘bad’ thing for Him to do. But on what grounds do you make moral judgments? God made you with a moral conscience, but it’s like a tape measure without any markings on it. A blank tape measure needs someone outside itself to come and make standard markings on it before it can measure anything. You have the *ability* to judge right and wrong, but you need a *standard* to use in making the judgment. The only absolute standard available to you is God’s character. That’s what defines right and wrong, good and bad. If you say God is ‘bad,’ you’ve rejected the only possible source of a standard for ‘good,’ and you can’t make *any* moral judgments anymore! But you are quite confident in your ability to judge right and wrong, so I’m afraid this, too, will be unconvincing to you.”

“Very unconvincing!” asserted Xiao Wang. “I think God has violated His own standard.”

“He never does that. It’s just that you haven’t yet understood. But I still have a third and final point which should at least enable you to see that God was not selfish or unloving when He made humanity. You’ll notice it says:

And I will put enmity between you and the woman, And between your seed and her seed; He shall bruise you on the head, And you shall bruise him on the heel. [Genesis 3:15 NAS]

This promise is a gleam of light in a dark courtroom of judgment and condemnation. It’s the first prophecy about the gospel of Christianity. Just as God is pronouncing the curse, He says that Someone will come—a descendent of the woman, a human being—Who will do something about the disaster that the snake, Satan, has brought on humanity. That’s what ‘He shall bruise your (Satan’s) head’ means. But He would have to pay a high price to do it. That’s what ‘you (Satan) shall bruise Him on the heel’ means.”

“That’s Jesus!” said Xiao Li.

“Yes, Jesus,” agreed Professor Ho. “Xiao Wang, I know you can’t understand it right now, but Jesus Christ was God Himself come to earth as a human being. And it’s here that I can prove to you that God is not selfish. You’re right, God foresaw humanity’s fall into sin and suffering. And you’re right, God freely choose to make us anyway. But you see, God also decided in advance that He would come down Himself to our sin-cursed earth, live the life of a human being in a body destined to die, suffer horribly, and sacrifice Himself to save us many of us as are willing to be saved. You may not understand that God is so great that He had the right to make us. But when you look at the price that He was willing to pay to save us from the consequences of sin, you cannot possibly doubt that He loves us!”

For a long time all three of them silently stared at the desktop. Finally Xiao Wang looked up and said, “I’ve heard about your Jesus dying on the cross for humanity. It’s very moving. But how do you know these things are true?”

Professor Ho broke into a bright smile. “If you’re willing to come again, we can examine the next step in the evidence!”

Xiao Wang nodded slightly. “I’ll come.”

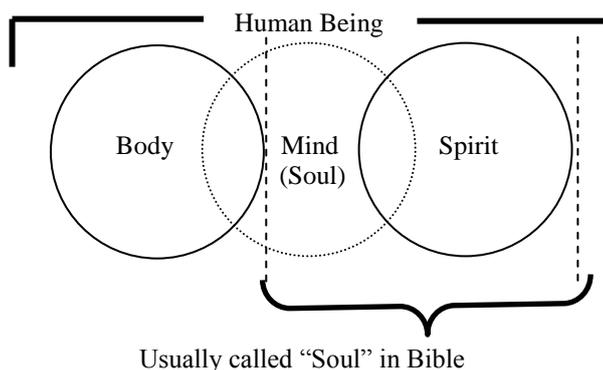
Appendix 2-1: The use of the words “soul” and “spirit” in the Bible.

It might seem surprising that the body-soul-spirit diagram discussed above separates “soul” and “spirit.” Most of the time in the Bible, the two terms are used interchangeably. But in several places a distinction is made, for example:

Now may the God of peace Himself sanctify you entirely; and may your spirit and soul and body be preserved complete, without blame at the coming of our Lord Jesus Christ. [1 Thessalonians 5:23 NAS]

For the word of God is living and active and sharper than any two-edged sword, and piercing as far as the division of soul and spirit, of both joints and marrow, and able to judge the thoughts and intentions of the heart. [Hebrews 4:12 NAS]

What we usually mean when we say ‘soul’ includes everything on the right side of the body-soul-spirit diagram:



The Bible usually uses the word “soul” to refer to the immaterial part of human existence. This includes most of what is in the circle labeled ‘soul’ and all of what is in the circle labeled ‘spirit.’

The *circle* labeled ‘soul’ or ‘mind’ overlaps with both the body and the spirit. This reflects the fact that it is impossible, at least at present, to determine where the physical processing of neural activity ends and an abstract ‘information system’ begins. It is also impossible for us to introspectively determine where our mental ‘soul’ ends and our spiritual ‘spirit’ begins.

The Hebrews 4:12 verse above notes that the word of God is able to distinguish between “thoughts and intentions” and also between “soul and spirit.” This might be referring to the difference between our conscious thoughts which are in our mind (“thoughts,” “soul”) and the sometimes deceitfully hidden motives of our will which are decided by our spirit (“intentions,” “spirit”). The word of God can expose the hidden motives of our spirits which we refuse to admit!

¹ Pictures downloaded from:

Ape to man: Provided by Creaiion Ministries International, use with permission

Pilttdown Man: Artist’s model.:talkorigins.org/faqs/pilttdown/rutot.gif

Pilttdown Man reconstructed skull: PUB-DOM J. Arthur Thomson, *The Outline of Science*, 1922
en.wikipedia.org/wiki/File:Pilttdown_man.jpg

Pilttdown Man jaw fragment: creation-facts.org/scientific-law/scientific-hoaxs/

Neandertal artifact thought to be part of a flute: PUBDOM en.wikipedia.org/wiki/File:PiscalDivjeBabe.jpg

Earlier presentations of Neandertal Man: from the illustrated *Illustrated London News* 1909, picture downloaded fromtalkorigins.org/faqs/homs/savage.html

‘Nebraska Man’ tooth: *Illustrated London News*, June 24, 1922

Artist’s reconstruction of ‘Nebraska Man’ family group: PUB-DOM
en.wikipedia.org/wiki/File:Forestier_Nebraska_Man_1922.jpg

Chacoan peccary *Catagonus wagneri* : PUB-DOM en.wikipedia.org/wiki/File:Catagonus_wagneri_1_-_Phoenix_Zoo.jpg.

Fraudulent ‘Archaeoraptor’ fossil : creationwiki.org/File:180px-Archaeoraptor.jpg

Artist’s reconstruction of ‘Archaeoraptor.’: nationalgeographic.com/events/99/feather/archaeoraptor.html

‘Lucy’ actual bones : CC-BY 120 en.wikipedia.org/wiki/File:Lucy_blackbg.jpg

‘Lucy’ museum reconstruction: Answer in geneses.org

Laetoli footprints: courtesy of Tim Evanson flickr.com/photos/23165290%40N00/7282890542/in/photostream/;fa detail of image from flickr.com/photos/23165290@N00/7282890638/in/photostream/

Kanapoi humeral fragment (arm bone) KNM-KP 271: bspu.unibel.by/teacher/Maliugin/Ancient1/Ludi/Anamensis-tibia.jpg

Olduvai stone tools : PUB-DOM commons.wikimedia.org/wiki/File:British_Museum_Olduvai_handaxe.jpg

The vicious looking teeth of a gorilla : ©Virunga National Park, flickr.com/photos/gorillacd/3794874682/

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