

The Second Missing Link

The crowd's bellowing chants, 'Stop the Teachers, Not the Preachers', surround Adam as he forces his way through the demonstrators. A banner, swung wildly, accidentally clips him across the top of his head and momentarily stuns him. His head still reeling, he continues to push his way towards the building's entrance. He wishes he stayed in bed, propped up reading research, a coffee in hand. The university is closed down in the face of this violent, religious mob roaming the campus. He would be home, like everyone else, if Dr. Carlson hadn't called.

The closer the entrance, the harder it is for Adam to shove his way through the press of people. Meeting Dr. Carlson on a day like today will please him, and, with the defense of his thesis coming soon, the Professor's support is crucial. He's almost there, within a few feet of the guards lined in front of the glass entrance way, when a stray elbow from a little gray-haired old lady, jumping up and down and enthusiastically yelling, 'Preach the Word, Burn the Books,' catches him hard in the ribs and knocks his breathe out. When she apologizes, and pats his overcoat, he sees her recognize the lab jacket beneath. The look of horror in her widening eyes unnerves him and he wildly thrashes past the remaining people as she cries out, "Get him, get him, he's a filthy scientist. Get him."

Just as he lurches past the protesters, into the arms of security, hands clamp onto him and pull him back into the ever-maddening crowd, tearing his coat away and scratching at his face. The guards attempt to knock the protesters off of him with their batons but as often as they catch the people grappling him, they catch him flush to his

head and arms. The guards are losing this little tug of war until, suddenly, one fires a shot into the air. That surprise allows the guards a brief advantage. They pull him free and toss him through the quickly opened door.

As Adam sprawls along the slick tiled floor he hears the crowd surge against the guards. He is hyperventilating, sweating profusely, in the unnatural radiator heat of the institutional lab building. When his breathing finally slows, he rises to his unsteady feet and starts up the stairs to the lab he's scheduled to meet the professor. Step by step, inch by inch, he finally reaches the landing and turns down the hallway towards the lab.

Professor Carlson, having just arrived himself through the other entrance, is busy turning on the lights and opening the blinds. The sun's glare blinds Adam for a moment.

"Come now, Adam," the Professor addresses him, "no good standing there, come in, come in, they will find us either in here or out there, so no use worrying."

Adam is relieved to see the tall, slightly stooped, figure of the professor. One spot of sanity in this otherwise insane day.

"Did you have the opportunity of talking to some of the people outside? I spent a little time asking them what they were trying to accomplish. Very committed. Another view point is always good. They are certainly right about some of our excesses."

Professor Carlson's jacket is also ripped and there is a bit of color to his face from the recent excitement. Adam fixates on that rip, unable to comprehend how the Professor can remain calm.

"This?" The Professor fingers the rip and replies to Adam's obvious concern, "only a minor price to pay for admitting who one is. They probably don't know that I admire their stance and even think that their view, science rules too much of their life, is

true. But they must realize that many of them wouldn't be alive today except for that science."

"How do you handle the hostility?"

"We're just people, that's all. Sometimes I'd rather talk to someone who doesn't agree with me than someone who does."

"It's all so terrible. If they only understood how important what we do is."

"Yes, yes . . . but we must also understand what they do is important. The challenge of answering our opponents helps define exactly what is right for us to do. Now, you remember the thrust of our research?" the Professor continues, trying to soothe the nervous Adam.

"There's a thousand or more people out there who would like us to stop."

Hysteria tinges Adam's voice. As if on cue, the crowd's clamor swells to a pitch and a rock comes crashing through the unblinded window, bouncing once, twice, and landing at the Professor's feet. Adam cowers backwards while the Professor hefts the rock as if examining it to discover its composition and age.

"Ah, Adam, you were always good at avoiding answering questions. Yes. But once you forgot about your fears of being wrong in front of the class, you did fine."

"But this isn't a question of passing or failing a class. We might not make it out of here past that mob."

"Things won't come to that. Even if they do, don't you worry, you'll be okay."

Adam barely hears the Professor, he is distracted by the mob's methodical chants, 'They test chimps, and our kids. They test chimps, and our kids.' Adam wonders if he'll ever see his wife, Lilith, again. She at least picked a safe area of research, straining

plankton and weighing chlorophyll. No angry mobs gathering over the poor plankton being sacrificed for their chlorophyll. At least not yet.

The Professor comes over to the corner where Adam retreated and offers a liver-spotted hand to help him from the table he dove under when the rock crashed through the window. "Listen for a few moments. Block all this outside noise aside. I want to let you know the final results of the research done by you and your fellow graduate students. I suppose for you, always in the middle of it, day to day, it's hard to see the over all picture.

"As the man on top, I've supervised the research and have been purposely close-mouthed over the years. But I'm glad to tell you that it has amounted to a startling conclusion."

Adam emerges from the shadow of the table. The sound outside has lost some of its volume, as if it has moved off a bit. While the Professor continues, lost the same way as when he lectures, Adam goes over to a window, peeking around the edge. He sees that the riot squad has moved the protesters away from the building. The squads' rhythmical whacking of their shields is oddly in synch with the crowds chanting.

"Well then," the Professor continues, hands behind his back, rocking to and fro from the balls of his feet to the toes, "you remember how you established that the gene sequence at the tip of chromosome 23 is enabled during pregnancy by the increase of protogen-alpha-actate, PAA, in the mother's blood in the fetus?"

"Yes?" Adam replies, still peering down at the bright courtyard below, fascinated at how the sun made sparkles on the helmets of the riot police. "That was simple, once you showed me what to look for."

"Well, that only followed up on John's research a few years back that found that this gene led to a cascade of activations and deactivations that are the main differentiations between humans and primates--our larger craniums, developed vocal cords, longer legs, and modified pelvis. In other words, exactly what makes us human."

"Uh, Professor," Adam is a little worried. As the police move the protesters away from the building their line becomes thinner and it looks as though the demonstration isn't losing any steam, "I'm really happy about all that, but I think we have more immediate concerns."

Dr. Carlson, lost in thought, continues on, "Unfortunately, the good people outside are upset at our use of lab chimps. Even though the chimps help collaborate the conclusions I've reached, somehow it doesn't seem worth it. Perhaps a different approach, it might have taken a bit longer. Still, we, you, me, and all the others that have contributed to this work, have finally identified what makes us human, the ultimate (so far) in evolutionary development upon this earth."

"Wait a minute. Ack," Adam ducks another rock that flies through the window as it begins to dawn on him what the professor is saying, "we've identified the missing link?"

"Yes, that's a good pun, I like that. Usually the anthropologists mean the first species, whose remains have yet to be found, who has the characteristics that distinguishes us as a race. Yet the gene responsible for this can be called a link. Well, we must write a paper on all this, Adam." The Professor stops his pacing and strokes his gray beard. "Most curious of all is that this gene also enables the gene that leads to the production of PAA in pregnant women."

Adam continues to peer out the window, presenting as small a target for rocks as possible. Although the police have cleared the little lawn between the wings of the building, the chanting is still easily heard. And even though the protesters must be further away, it's becoming as loud as it was when they were under this window. Then, suddenly, the implication of what the Professor just said sinks in.

"Wait, that means in order to produce the traits that are Homo Sapiens, there must already be a Homo Sapiens. That can only happen if mankind is already genetically engineered."

"Yes, indeed, perhaps the 'Lucy' suggested by our learned colleague, Leakey. When I had Matthew, you remember him, look for these genes in the other primates, there is no analogy. These genes, activated as they are, are dominant and mirror what appears to be the original set of genes. I find only one conclusion possible. There is or was a god, whether mortal or immortal, who changed the course of evolution for reasons we can only speculate as to the motive of. The end result being us."

Now, amidst the ever growing din of the chants, there are the reverberations of metal as the mob pounds upon the entrance to the building. Adam glances back outside and sees his worst fears realized. A group of the protesters have broken through the riot police and have reached the entrance unimpeded.

"Professor, we need to leave, quickly. We are in danger from the crowd."

"Not really, not us surely?" the Professor replies.

From the front of the building the thunk becomes louder and suddenly stops with one last wrenching noise of broken hinges. The voices are closer, echoing in the corridor.

"Animals flee, doctors bleed. Animals flee, doctors bleed."

"Professor?" Adam now looks truly for the proverbial rabbit hole, "I don't think that we have much time."

"At my age, you certainly don't, but I understand your view of things. But my story is almost done. I speculated and looked to see if there was another cluster of like genes and indeed there is."

It is clear to Adam that the protesters are on this floor. He senses that the Professor, lost in his thoughts, has lost track of the situation. The timbre of the voices has changed, has become more immediate. For once, Adam is not so concerned about himself. He knows that if he doesn't get the Professor out of the building, the mob will quickly identify his well-known face.

"Dr. Carlson?" Adam shakes him by the shoulders, "We must leave."

"Oh, I'm sorry. I should hurry a bit and get to the point." The look in the professor's eyes causes Adam to step back. It is the look during a lecture that says that the major point, the one on the final, is about to be made. "The odd thing is, that this deactivated gene on top of chromosome 14 looks very close to the other on chromosome 23. So, it seems god existed or exists but he or she stopped short. It's even possible that there was a blunder or perhaps, being in charge of the universe, other matters were a distraction."

"Yes, Professor, maybe the serpent tempted Eve or something," Adam increasingly nervous, looks for a retreat but doesn't want to abandon Dr. Carlson. He might be able to help if, no when, they have company.

"So I had the gene's effect, if activated, traced by Peter and Paul, you know them I think, the new grad students, and, well, we can't be certain of a lot of the ultimate

physiological effects, but it appears that many of the genes associated with our more violent, xenophobic tendencies have these duplicate genes that will become active instead. The total chain of effect on the DNA is too similar to the other to be a coincidence, including the production of an enzyme during pregnancy that will activate this very gene. And we can assume since the other set of genes produced a superior and more social animal, that this gene will replace some of the more violent tendencies still remaining from our animal heritage."

Although distracted by the growing roar of voices in the corridor, the breaking of glass, and the sound of heavy equipment being toppled, Adam is riveted by the Professor's revelation. "Wait a minute, you're saying, buried in each of us, is this combination of genes, lord knows how they got there, that will make us jump the evolutionary ladder in as big or bigger jump than the previous?"

"Look it here," the Professor unlocks a desk drawer and holds up a vial, "This is why I brought you here. A few drops a day and a woman who becomes pregnant will pass this through her blood stream to her child. That child will have the gene on top of chromosome 14 activated from conception. And because these two genes, the previous and this one, are dominate, that child's children will also have the gene active so long as the blood line does not die off. The child will be dominant. The human race will evolve instantly."

He hands the vial to Adam, who starts to put it into his lab coat pocket. The Professor gently stops him and makes sure it is in the pocket of the shirt beneath.

"Yes, Lucy the Second, another leap for Homo Sapiens? Well, to tell the truth I'm not sure if this was left as a test for us or was simply a failure. Perhaps it was activated

but the world was not hospitable to those traits. I've thought there might be truth in the story of Cain and Abel. Maybe this will be a better time, who knows?"

The door to the lab strains at its hinges beneath the assault of the mob who haven't even bothered to find out that it is unlocked.

"Adam, quickly, give me your lab coat and get out of sight."

Adam does what he's told, but this time it's not fear that drives him beneath the table but for a purpose greater than any of his own emotions. He sees the mob burst in and the Professor calmly face them. There are so many of them that the front is forced forward until the Professor is swept by it to the window. There is a brief moment as one or two try to stop the heedless advance but they can't, and, in the shattering of glass, the puzzled-faced Professor falls from the window.

While they are distracted, amazed by their mayhem, a dumbfounded Adam slips through the tables and emerges among them. He doesn't feel special, he feels a sudden purpose added to his life by the weight of the vial in his shirt pocket. As he lets the panicked crowd sweep him out of the room he briefly wonders, 'why me?' Then he sighs, sadly, thinking of Dr. Carlson and knowing his reply would have been, 'why not?'