

# SNOWBALL IN HELL

Brian Stableford

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Critically acclaimed British "hard-science" writer Brian Stableford is the author of more than thirty books, including *Cradle of the Sun*, *The Blind Worm*, *Days of Glory*, *In the Kingdom of the Beasts*, *Day of Wrath*, *The Halcyon Drift*, *The Paradox of the Sets*, *The Realms of Tartarus*, *The Empire of Fear*, *The Angel of Pain* and *The Carnival of Destruction*, *Serpent's Blood* and *Inherit the Earth*. His short fiction has been collected in *Sexual Chemistry: Sardonic Tales of the Genetic Revolution*. His nonfiction books include *The Sociology of Science Fiction* and, with David Langford, *The Third Millennium: A History of the World AD 2000-3000*. His acclaimed novella "Les Fleurs du Mal" was a finalist for the Hugo Award in 1994. His most recent books are the novels *The Fountains of Youth* and *Architects of Emortality*. A biologist and sociologist by training, Stableford lives in Reading, England.

Stableford may have written more about how the ongoing revolutions in biological and genetic science will change the very nature of humanity itself than any other writer of the last decade. Here he takes a penetrating look at what really makes us human—and comes to a few conclusions that may surprise you.

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FROM THE VERY BEGINNING I had a niggling feeling that the operation was going to go wrong, but I put it down to nerves. Scientific advisers to the Home Office rarely get a chance to take part in Special Branch operations, and I always knew that it would be my first and last opportunity to be part of a real *Boy's Own* adventure.

I calmed my anxieties by telling myself that the police must know what they were doing. The plan looked so neat and tidy when it was laid out on the map with coloured dots: blue for the lower ranks, red for the Armed Response Unit, green for the likes of yours truly and black for the senior Special Branch officers who were supervising and coordinating the whole thing. We deeply resented the fact that the reports from the surveillance team had been carefully censored, according to the sacred principle of NEED TO KNOW, but there seemed to be no obvious reason to suppose that the raid itself wouldn't go like clockwork.

"But what are they actually supposed to have done, exactly?" one of my juniors was reckless enough to ask.

"If we knew *exactly*" came the inevitable withering reply, "we wouldn't need to include you in the operation, would we?"

I could tell from the reports we had been allowed to see that the so-called investigation into the experiments at Hollinghurst Manor had been a committee product, and that no one had ever had a clear idea exactly what was going on. Warrants for surveillance had been obtained on the grounds that the Branch's GE-Crime Unit had "compelling reasons" to suspect that Drs Hemans, Rawlingford and Bradby were using "human genetic material" in the creation of "transgenic animals", but it was mostly speculation. What they really had to go on was gossip and rumour, and the rumours in question seemed to me to be suspiciously akin to the urban legends that had sprung up everywhere since the tabloids' yuck factor campaign had finally forced the government to pass stringent laws controlling the uses of genetic engineering and to set up the GE-Crime Unit to enforce them. Once it existed, the Unit had to do *something* to justify its budget, and its senior staff obviously reckoned that whatever was going on at Hollinghurst Manor had to be yucky enough to allow them to get that invaluable first goal on the great scoresheet.

It seemed to me that the whole affair had always had a faint air of surreal absurdity about it. The illegal experiments that Hemans and his fellows were alleged by rumour to be conducting were unfortunately conducive to silly jokes, ranging from lame references to flying pigs to covert references to the raid as the Boar War. Even the Home Office joined in the jokey name game; it was some idiot undersecretary who decided to code-name the "target" Animal Farm, borrowing the most popular of the derisory nicknames it had accumulated during the surveillance. It was, alas, my own people who took some delight in explaining to anyone who would listen why the people inside had allegedly taken to calling the project "Commoner's Isle". (It was because the place where the ambitious scientist had conducted his unsuccessful experiment in H.G. Wells's *The Island of Doctor Moreau* had been called Noble's Isle.) When the inspector in charge of the Armed Response Unit assured us at the final briefing that the people in the manor didn't have a snowball's chance in hell of getting past his men he couldn't understand why the men from the ministry snickered. (In *Animal Farm*, Snowball is the idealist who gets purged by the ruthless Napoleon.)

In a sense, the inspector was right. When the Animal Farmers found out that they were being raided and ran like hell they *didn't*, have a snowball's chance in hell of getting past his men. Unfortunately, that didn't make them stop running and give up.

The part of the plan that included me involved uniformed policemen smashing their way through the main door and making as many arrests as possible while my people went for the computers and any paper files that were still around. We didn't expect

to get all the records out—we'd been told at the briefing that Hemans, Rawlingford and Bradby would probably start crunching diskettes and reformatting hard disks as soon as they were roused from sleep—but we figured that there'd be more than enough left to salvage. They were scientists, after all; keeping backup files ought to have been second nature to them.

Unfortunately, it wasn't that simple. The Animal Farmers didn't bother with shredding and reformatting; they just torched the place. Nobody had thought to give us gas-masks, and the fumes that met us in the corridors of the manor were so foul and instantly dizzying that we should have known that they were toxic and turned back immediately. Actually, that was what most of my colleagues did. I was the only thoroughly stupid one. I kept on going, determined to get to the office that was my designated objective. It was hopeless—but it was my one and only *Boy's Own* adventure and I hadn't been trained to an adequate sense of self-preservation. I was just on the point of blacking out when I heard shots fired in the woods, and realized just how badly awry the operation had gone.

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I would certainly have died if I hadn't been pulled out of the fume-filled corridor—and by the time my own team got around to noticing that I was missing it was far too late for *them* to do anything constructive. It was the Animal Farmers who saved me—not the scientists who had actually set up the illegal experiments, but a handful of lesser beings who'd turned back when the shooting started in the hope of finding a safer way out on the other side of the house.

I woke up with a terrible headache and stinging eyes, coughing weakly. It felt for a minute or two as though my lungs had been so badly scorched that I could no longer draw sufficient oxygen from the warm and musty air that I drew into them—but that, mercifully, was an illusion born of distress.

I managed to crack open my weeping eyes just long enough to perceive that it was too dark to see what was happening, then shut them tight and hoped that the pain would go away.

Somebody lifted my head and pressed a cup of water to my lips. I managed to take a few sips, and decided not to protest when a female voice said, "He's OK."

While I lay there collecting myself a different female voice said, "It's no good. There's no way out up there. As the fire draws air upward our supply's being renewed via the tunnel to the old icehouse, but there's no way through the grilles. They haven't been opened in half a century and the locks are rusted solid. Hemans should have taken care of them years ago. He should have known that this would happen one day."

"There's a hacksaw in the toolbox," a male voice put in. "If we get to work right

away..."

"They were *shooting*, Ed," the second female told him. "They're trying to wipe us out, just like Bradby always said they would. They don't even want to ask the questions, let alone hear the answers. They just want us dead. Even if we could get to the lakeside, they're probably waiting for us. We wouldn't stand a chance."

"What chance have we got if we wait here, Ali?" Ed replied. "Even if the fire burns all day tomorrow, they'll come to pick over the ruins as soon as they can. If they're still in the woods by then, they'll certainly be all around what's left of the house. The tunnel's our only chance. If we can just get to Brighton, to a crowd. Then London ... we can pass, Ali. I know we can. We can hide."

I wanted to tell them that nobody wanted to shoot them, that they'd be fine if they sat tight until it was safe to go upstairs and then surrendered, but I knew that they wouldn't believe me. What on earth had made them so paranoid? And why had the ARU men opened fire?

"Ed's right," said the female who'd given me the water to drink. "If they have the icehouse covered, we're dead—but all the exits upstairs will still be useless when the fire dies down. We have to start work on the grilles. Somebody ought to watch this one, though—he's not badly hurt. If he doesn't come at us, he'll give us away."

"We should have left him where he was," Ed opined bitterly. "He's not going to be any use as a hostage, is he?"

"He wouldn't be any use as a corpse," the unnamed female retorted. "He'd just be an excuse for branding us as murderers, justifying the *ethnic cleansing*."

*Ethnic cleansing!* What on earth had Bradby been telling them? And who the hell were they, anyway? I couldn't help jumping to the obvious conclusion, but I refused to entertain it. I was supposed to be a scientist, not some sucker who'd swallow any urban legend that happened along.

"We don't know that the others who came in with him all got out," Ali pointed out.

"No, we don't," the other female admitted, "but we did know that he hadn't. If we'd left him where he went down, it *would* have been murder."

"It would have been suicide," said Ed. "But Kath's right, Ali. They'd have *called* it murder. They'll have to justify the shooting somehow."

I coughed again, partly because I needed to and partly because I wanted to remind them that I had a voice too, even if I hadn't yet obtained sufficient control of it to formulate meaningful utterances.

"You'd better stay with him, Ali," the male voice said. "If he gets aggressive, hit him

with this."

At that stage, I could only guess what "this" might be—some time passed before I was able to make out that it was an axe—but I wasn't about to make any trouble. I was still trying to convince myself that I hadn't breathed in enough poison to be mortally hurt, and that I hadn't done sufficient damage to my lungs to prejudice my long-term ability to breathe. I heard two sets of feet moving away across a stone floor, and I forced myself to relax, collecting myself together by slow degrees.

Eventually, I felt well enough to begin to feel angry. I stopped being grateful for being alive and started resenting the fact that I had come so close to dying. Setting the fire had been an act of pure spite on the part of the mad scientists. People like me—law-abiding geneticists, that is—had collaborated with the Home Office in drawing up the careful legislation which presumably defined whatever the Animal Farmers were doing as unacceptable, but they had simply been too arrogant to comply with the law. On top of that, it seemed, they had taken the view that if we wouldn't countenance the research then we couldn't have the results. They had obviously decided that if they had to go to jail, they'd take all their hard-won understanding with them—and woe betide anyone who got in their way.

Once I began to get angry, I didn't stop. If Hemans and Co. really had been transplanting human genes into the embryos of pigs in order to turn out simulacra of human beings, it was unforgivable, and the murderous fire was piling injury on insult. I'd never been convinced that the Animal Farmers *had* done what Special Branch said they'd done—I'd gone through the doors of Commoner's Isle still wondering whether it was all going to turn out to be a big mistake, exaggerated out of all proportion—but the fact that the place had been torched with such alacrity suggested that they must have done *something* that they were desperate to conceal.

Unless, of course, that was what we were supposed to think. There was still a possibility that we were all being taken for a ride—that it was all a game, intended to discredit the GE-Crime Unit and the Home Office advisers before they began to get their act together.

While I lay there being angry, it occurred to me that I might be in a uniquely good position to find out exactly what the Animal Farmers were *really* up to.

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When I was finally confident that I could hold a conversation, I had already formulated my plan of campaign.

"Is Ali short for Alison?" I asked. I was able to open my eyes by then, and they had accustomed themselves to the near-darkness sufficiently to let me see that the person standing guard over me was a blond teenager, perhaps fourteen or fifteen years of age. She was too young to be a lab assistant, so I seized upon the hypothesis that she was probably someone's daughter. We had been warned that some of the live-in

staff at the manor had children, but we hadn't expected them to be abandoned when the shit hit the fan.

"Alice," she informed me, stiffly.

"As in *Wonderland*?" I quipped, hoping to help her relax.

"As in *Through the Looking Glass*," she retorted. It didn't seem to be worthwhile asking her what the difference was.

"I'm Stephen Hitchens," I told her. "I'm not a policeman—I'm a geneticist, currently employed as an adviser to the Home Office."

"Bully for you," she said dryly. I wondered whether she might be older than she looked—maybe sixteen or seventeen—but I concluded in the end that natural insolence, like puberty, probably arrived ahead of its time nowadays.

"Why did the scientists set fire to the house, Alice?" I asked.

"Why did armed police surround it?" she countered.

"None of this is your fault, or mine," I assured her. "I was just trying to recover the records of the experiments the scientists had done. They should have made sure that you were safe before they started the fire. They're not your friends, Alice. Did your parents work for Dr Hemans?"

"In a manner of speaking," she told me, as if relishing a hidden irony.

"What manner of speaking?" I demanded, although I could hardly help seeing the obvious implication. If she wasn't the child of someone on the staff, she had to be one of the experimental subjects—or, I reminded myself, someone *pretending* to be one of the experimental subjects.

"The kind of work you do in a sty," she replied, casually confirming the inference she must have known I'd take. "The kind of work where your pay arrives in a trough."

If it was true, then she certainly had come from Wonderland — but was it true? Wasn't it far more likely to be a lie, a carefully constructed bluff? Was it to hear this, I wondered, that I had been hauled out of the corridor and brought down here into near-darkness? Could the Animal Farmers be using me, trying to convince me that they had achieved far, far more than they had? If so, what should my policy be? Should I run with the bluff and let her make her pitch, or challenge her and refuse to believe that she was anything but what she appeared to be?

"You're telling me that you're not human?" I said, just to make sure that she wasn't just making a joke. I knew as soon as I'd said it that I'd framed the rhetorical

question wrongly. What she'd actually told me was that her parents weren't human.

"Like hell I am," she said. Like Snowball in hell, I couldn't help thinking. Play along, I told myself. Find out what she has to say.

"So you think you're human," I conceded. "You can certainly pass for it, probably in a far brighter light than this—but if your parents really were pigs, you must understand that other people might not see things the same way." As I said *that* I realized that her creators or drama-coaches—must already have put it in much stronger terms. That was why Ed and Kath had been so paranoid about the possibility of being shot down—that and the fact that the ARU really had opened fire.

"I know what I see when I look in a mirror," Alice told me, perhaps to make sure that I'd understood how clever her reference to *Through the Looking Glass* was. "It's not the image of itself that's important, of course—it's the fact that there's an eye to see it. A human I—and I don't mean e-y-e."

*Cogito, ergo sum*, she might have said, if she—or whoever had written her script—hadn't been so anxious about the need to stay viewer-friendly. I hadn't enough anger left to prevent me from wondering whether Special Branch might always have known exactly how human Animal Farmers' experimental subjects looked, and whether their senior officers might have taken it upon themselves to decide that the ministry didn't need to know until the shooting was well and truly over. If they had, and my captors knew it—or even if they hadn't and my captors merely believed it—I might be in deeper trouble than I thought.

"What about Ed and Kath?" I asked. "Are they like you?"

"They're human," Alice assured me, in a tone that left little doubt as to what kind of human she was talking about. She was telling me, in her own perverse way, that they were the kind of humans who were made as well as born: the kind which started off as a fertilized ovum in a sow's belly before the genetic engineers got to work.

Dr Moreau had remade beasts in his own image by means of surgery, but modern scientists had much cleverer means at their disposal—and the degree of success they might be expected to achieve was far greater. I had to remind myself again that all of this could be a bluff run by a thoroughly human child, and that I was only playing along to see how the story would go.

Alice had relaxed a little since she first started talking, but the way she held her shadowed head and the way she gripped the axe she'd been ordered to hit me with if I got out of line suggested that she wasn't about to get careless. Now that she'd made her first impression, she was busy reminding herself that she was stuck in a cellar beneath a burning building with a man who might be dangerous. All in all, philosophical discussion seemed the safest way to build a modicum of trust.

"You think you're human because you have a human mind: because you're self-aware?" I said earnestly—trying with all my might to sound like the dull and harmless scientist I actually was (and am).

"All animals are self-aware," Alice replied calmly. "I'm aware that I'm human. I love and respect my fellow men, no matter what the circumstances of their birth may have been."

"How do you feel about pigs?" I asked.

"I love and respect them too," she replied. "Even the ones which aren't human. I don't eat pork—or any other meat, come to that. How do you feel about pigs, Dr Hitchens?"

I eat pork, I also eat bacon, and all kinds of other meat, but it didn't seem diplomatic to talk about that. "I don't think pigs are human, Alice," I told her. "I don't think they can become human, even with the aid of transplanted genes."

Her answer to that certainly wasn't the kind of answer I'd have expected from an ordinary teenager, or even an extraordinary one. "How did humans become humans, Dr Hitchens?" she asked me. "A handful of extra genes, obligingly delivered up by mutation, do you suppose? Perhaps—but perhaps not. Just because a human and a chimpanzee only share ninety-nine per cent of their genes, it doesn't necessarily follow that the variant one per cent are solely responsible for the differences. Even if they are, it's not a matter of different protein-making stocks. It's a matter of *control*. The one per cent is almost entirely homeotic." She might have been parroting something Hemans or one of his coworkers had said, but I didn't think so. She seemed confident that she was making sense, and that she understood that import of her argument—but she hesitated, just in case I didn't.

"Go on," I said interestedly. The invitation was enough to set her off with the bit between her pearly, neatly aligned teeth.

"Most of what it took to turn apes into men," she told me, as if it were a matter of absolute certainty, "was a handful of modifications to the ways in which genes were switched on and off as the cells of the developing embryo became specialized. You don't need dozens of extra genes to grow a bigger brain. All you need is for a few more unspecialized cells to become brain cells. You don't need dozens of extra genes to make a clever hand or to stand upright, either. What you need is for the cells that differentiate into bone and muscle to distribute themselves in slightly different ways within the developing embryo. Becoming human isn't so very difficult, once you get the hang of it. Cows could do it. Sheep too. Lions and tigers, horses and elephants, dolphins and seals. Dogs, probably; cats, maybe; rats, perhaps; birds, probably not. You have to get right down to snakes and sharks before you can say that there's no chance at all. We all start out as eggs, Dr Hitchens, and every egg that can make a pig or a donkey or a goat can probably make a human, if it only invests enough effort in shaping the brain and the hand and the backbone. That may



be an unsettling thought, but it's true."

It was an unsettling thought. I had already thought it, and it had already unsettled me—but the fact that Alice was prepared to confront me with it, perhaps on behalf of Hemans, Rawlingford and Bradby, but more probably on her own initiative, was even more unsettling.

I reminded myself again that it might be a lie, a careful hoax intended to persuade me, falsely, that the men from Commoner's Isle had mastered godlike powers—but if it was, it was beginning to work.

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"Would you like to live as other humans do, Alice?" I asked, ostentatiously leading with my chin. "Would you like to go to school, to university, to get a job, to get married one day and have children of your own?"

"I do live as other humans do," she replied, blandly refusing to see what I was getting at. "I've been to school. I expect that I'll do all the other things when the time comes." Her tone said that she didn't expect any such thing—that she expected to be pursued and captured, shot at worst and imprisoned at best. Her tone told me that she expected to have to fight for her life, let alone her entitlements as a human being, and that she wasn't about to take any bullshit from me while she had an axe in her hands.

"I'm not sure that you'll be allowed to do anything that other teenagers routinely do, Alice," I admitted, figuring that it was best to pose as the honest man I really am. "The scientists who shaped your brain, hand and backbone were breaking the law. That's not your fault, of course, but the fact remains that you're the product of illegal genetic engineering. The law doesn't consider you to be a human being — nor do the vast majority of human beings. All the things you hope you'll be able to do depend on the willingness of human society to admit you as a member, and that willingness simply isn't there. There's a sense, you see, in which it isn't enough just to define yourself as human—it's for human society as a whole to decide who belongs to it and who doesn't."

"No, it isn't," she replied promptly. "White people once refused to define black people as human, and German gentiles once refused to define Jews as human, but that didn't make the black people or the Jews any less human than they were. The only people who became less human because of those refusals were the people who tried to deny humanity to others. They were the ones who were refusing to love and respect their fellow men, the ones who weren't acting morally."

She was carrying the argument better than any fourteen-year-old should have been able to, and she wasn't trying to conceal the fact. I couldn't help wondering whether that might be a mistake, if she ever got the chance to plead her case before a wider audience. Nobody loves a smart arse, especially if the smart arse is a jumped-up pig.

If you want to pass for human, you can't afford to be too good at it—and, as Alice had stubbornly insisted on pointing out, real humans frequently aren't very good at it at all.

"Do you think the scientists who made you were acting morally?" I asked. "They knew what kind of a world they were bringing you into. They knew what would happen—to you as well as to them—when they were found out, and they must have known that they'd eventually be found out."

"I could understand a slave who was reluctant to bear children who would also be slaves," Alice replied, "but I can also understand those who didn't refuse. They knew that they were human, and that their children were human too, and they had to hope that the fact would one day be recognized. To have refused to bear children would have been giving in to evil, consenting to its effects."

"Why do you think the men who made you destroyed their records, Alice?" I asked. "Why do you think they were so eager to burn them that they endangered your life—not to mention mine?" Because they didn't want anyone to know the true extent of their success, I told myself. Because they wanted to be able to run this bluff.

"Because they wanted to be able to use their knowledge as a bargaining chip," Alice said. "For our benefit as well as their own. If you'd got the records, you'd have put a stop to everything. Because you didn't, we still have something up our sleeves." She seemed to think that it was a reasonably good argument—which implied that in spite of all her hard-won sophistication she really was the mere child she appeared to be.

Theoretically, I thought, an animal embryo modified to replicate human form ought to develop as neotenuously as a human embryo, and an animal brain modified to accommodate all that a human brain could accommodate ought not to be educated any more rapidly. If so, Alice shouldn't be any cleverer than a fully human child reared in similarly exceptional circumstances—but without access to her school records, I knew that it would be dangerous to take too much for granted, or too little.

"No one will bargain with them, Alice," I lied. "They broke the law, and they'll be punished. Perhaps it's best if their discoveries are lost. That way, no one will be able to repeat their error."

"That's silly, Dr Hitchens," Alice said calmly. "If it's a mystery, that will just make more people interested in solving it. And if it's not so very difficult to solve ..."

She left it there, as if it were some kind of threat. She was still trying to convince me, in her own subtle fashion, that my world had just ended and that another had just begun, and that if she and all her fugitive kind were slaughtered by the ARU's guns they would be martyrs to a great and unstoppable cause.

"Have you read *The Island of Dr Moreau*, Alice?" I asked.

"Yes," she said.

"What do you think of it?"

"It's a parable. It tells us that it takes more than a little cosmetic surgery and a few memorized laws to make people—any people — human. That's true. Whether humans are born or made, the test of their humanity is their behaviour, their love and respect for their fellow humans."

"How many naturally born humans would pass that test, do you think?" I asked.

"I have no idea," she replied. "Lots, I hope."

"Would I pass it?" I asked.

"I have to hope so," she said casually, "don't I, Dr Hitchens? But I don't actually know. What do you think?"

"There wasn't supposed to be any shooting," I told her. "The police were supposed to put everyone under arrest. If your makers hadn't set fire to the house and told everyone to scatter and run, no one would have been hurt. Then, the matter of your humanity could have been decided in a proper and reasonable manner." I hoped that I was telling the truth, but I had a niggling feeling that the plan to which I'd been admitted wasn't the whole one. The GE-Crime Unit had called up the Armed Response Unit.

"Well," said Alice, "that isn't the way things worked out, is it? It seems to me that the matter of our humanity, as you put it, has already been decided. You'll never be sure, of course, that you've got us all. Even if Ed and Kath can't get to the old icehouse, and even if they run into the police when they do, you'll never be sure how many of us got out under the noses of your surveillance unit before they figured out that the appar-ently obvious wasn't necessarily true."

She was definitely feeding me a line there, but I couldn't tell whether she was feeding it to me because it was false, or because it was true. I thought the time had come for me to make a grab for the axe and take control of the situation. I was probably right—or would have been, if I'd actually succeeded.

I suppose, on reflection, that I was lucky she only swiped me with the flat of the blade. If she'd hit me that hard with the edge, she could easily have fractured my skull.

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When I woke up again I was in a hospital bed. My head wasn't aching any more and my eyes weren't stinging, but I felt spaced-out and bleary. It took a few minutes for

me to remember where I might have been, if things had worked out differently.

I learned, in due course, that the fire brigade had found me while searching the cellars for survivors and had handed me over to the paramedics before midnight. Unfortunately, the medication they'd fed me ensured that I didn't wake up again until thirty-six hours later, so I'd missed all of the official postmortems as well as the remainder of the action—but the urgency with which the Unit moved to debrief me reassured me that the adventure still had a long way to run.

"There were three of them," I told Inspector Headley. "I only saw one of them, and it was too dark to see her features clearly. She had blond hair, cut to shoulder length, and very even teeth that caught what little light there was when she smiled. I couldn't swear that I'd be able to recognize her again, dead or alive. Her name was Alice. She called the others Ed and Kath. They were trying to reach an old icehouse on the edge of the lake, but the tunnel had been blocked off. Did you get them?"

"What else did they tell you?" Inspector Headley countered jesuitically.

That wasn't a game I intended to play. "Did you get them?" I repeated.

"No," he conceded reluctantly. "But the tunnel was still blocked off—had been for the best part of a century. Nobody got out that way."

"But you didn't pick up three stragglers in the house?"

"No," he admitted, "but if you'll pardon my pointing it out, Dr Hitchens, I'm the one who's supposed to be debriefing you. Yes, they *could* have been piglets—and no, we wouldn't have believed that if we hadn't had the autopsy reports your colleagues carried out on the ones we shot. Personally, I'd have passed everyone of the corpses as human, and I wasn't the only one who wouldn't believe otherwise until your colleagues came back to us with the results of the DNA-tests—but we didn't capture any of the piglets alive. Now, would you mind telling me exactly what happened to you?"

"Not at all," I said, "but there's one thing I need to know. Was the shooting always part of the plan? Did you always intend to kill the children?"

He seemed genuinely shocked. "Of course not," he said. "They wouldn't stop. They just kept on running. They were warned."

The problem was, I knew, that they'd already been warned. They'd had far too many warnings for their own good.

I recited the whole story, in as much detail as I could remember, into Headley's tape-recorder. I watched his expression becoming more troubled as I spoke, and I gathered that Special Branch were just as confused as I was as to what might be real and what might be bluff.

"This has turned into a real can of worms," he told me, when he'd switched the recorder off. "We don't know how many of the piglets might be missing. We've been waist-deep in lawyers ever since we got Hemans and his friends under lock and key, including lawyers claiming to represent your fugitive friend and her alleged litter-mates."

"How many died?" I asked.

"Only seven," he said, so weakly that it was obvious that seven was either far too many or far too few. "Three of them were real humans. Unfortunate, but it was their own fault. I think they wanted us to shoot, to put us in the wrong. I think Hemans told those kids to keep running no matter what because he knew that some of them would be killed. Cynical bastard."

I had already told him that Bradby had warned his experimental subjects that an attempt might be made to wipe them out, but I wasn't convinced that the warning had been cynical. It seemed to me that he might have been honestly concerned, and rightly so. If Alice and the others *had* got away ...

"We might not find it easy to prove in court that the other four *weren't* real humans," I told Headley, although that news must already have been broken to him. "Did the DNA-tests throw up any evidence that they were transgenics?"

Headley shook his head. He seemed to understand the implications of the question. Transplanting human genes into animals was clearly and manifestly illegal, but if Alice had told me the truth, that wasn't what had been done to her. If Alice really was a pig through and through, genetically speaking, then there was a slim possibility that Hemans' lawyers could argue that what he and his colleagues had done wasn't illegal at all. And if Alice was as human as she seemed to be in every aspect except genetically, her lawyers might have a field day trying to establish exactly what the law might and ought to mean by "human"--assuming that the Unit ever caught up with her.

Whatever had been intended, it was obvious that the raid had been a colossal cock-up. It would be up to the minister to pull everyone's irons out of the fire, and to look at the broader implications of what we now knew. Men like me were the minister's eyes and brains, so it would be up to us to figure out what the real implications of the Animal Farm fiasco might be. Governments had been brought down by matters of a far more trivial nature and it was too late to hope that the situation could be contained. The cat was already out of the bag—or the pig from the poke.

Headley admitted, when I questioned him further, that without the records that had gone up in smoke, there was no way to know for sure how many experimental "piglets" there had been. They had always been kept inside, away from the prying eyes of the surveillance team, who wouldn't have recognized them for what they

were if and when they'd caught glimpses of them. Their creators and the piglets themselves knew the real number, but no one would ever know whether any figure they might offer was to be trusted. Now that we knew for sure that the piglets could pass for human, at least while they were still alive and kicking, we had to consider the possibility that some of them already were passing, in Brighton or in London, or anywhere at all.

If my evidence could be taken at face value, at least three piglets had escaped. Headley told me that other debriefings had produced evidence that at least two more, both female, might have evaded their pursuers in the woods behind the manor house. He was enough of an intellectual to understand my observation that it added up to a better breeding population than God had placed in Eden or Lot had led from Sodom.

As a scientist, of course, I wasn't at all sure of that—engineered organisms hardly ever breed true, and it was perfectly possible that even if the ersatz girls could produce offspring, the offspring in question might have snouts and tails—but we had to consider the worst possible case. Bringing human-seeming babies out of a sow's womb might sound no more likely than making silk purses out of sow's ears, but we had moved into unknown territory, scientifically speaking. What did I know, given that I had never dabbled in illicit experimentation? What did any of us know, unless and until Hemans, Rawlingford and Bradby condescended to enlighten us?

I suppose that I was lucky to be kept on the project, given that I'd ended up in hospital, but I was needed. I'd been brought in to analyze data, not to conduct interrogations, but the changed circumstances necessitated my taking a new role. My conversation with Alice had put me one up on my colleagues, so I was hustled out of the hospital with a bagful of pills as soon as the doctors could be persuaded to let me go.

"We haven't charged them yet," Headley explained to me, while I was being taken to the police station where Hemans, Rawlingford and Bradby were to be questioned. "At the moment, they're supposed to be cooperating voluntarily with our enquiries. We're keeping in mind the possibility of charging them with arson, kidnapping and child molesting, but we want to see how they and their lawyers are going to play it before we go in hard. If they're prepared to come clean and tell us where their backed-up data is—assuming they do have backups somewhere—we might still be able to tidy up the mess."

It seemed like a reasonable assumption to me, although I wasn't sure how reasonable our mad scientists would prove to be.

\* \* \* \*

I went into the interview with Hemans thinking that I was the only one on our side who'd actually thought the matter through, and the only one to have grasped the full complexity of the issue. I thought that I might be approaching the high-point of my

career—a taller peak than I had ever dreamed of scaling—if only I could keep my wits about me.

The interview was being videotaped, of course, but the tape wouldn't be admissible in court.

I couldn't measure the exact combination of emotions that mingled in Hemans' expression as he looked at me, but there was at least a little contempt and at least a little distaste. I couldn't understand that. When I'd first met Hemans, way back in '06, he'd been working in the public sector himself, helping to tidy up the loose ends of the Human Genome Project—but even before the HGP had delivered its treasure, its workers were being sucked into private enterprise. Comparative genomics was supposed to be the next big thing. I didn't hold it against Hemans that he had jumped ship, and I couldn't see any reason why he'd hold it against me that I hadn't.

It was obvious by '06 that the attempts that had been made to patent human gene sequences and develop diagnostic kits based on HGP sequencing data wouldn't bear much commercial fruit in the immediate future, because they'd be tied up in the courts for years. The precedents for patenting animal genes had, however, been established by the Harvard oncomouse and all the disease-models that had followed in its wake. Given that all mammals had homologues for at least ninety-five per cent of human genes, the obvious thing for ambitious biotech companies to do was to steer around the moral minefield by concentrating their immediate efforts on what could be done with animals. Pigs were already contributing organs for xenotransplantation, so they were a natural target for sequencing and potential exploitation, and there was nothing surprising in the fact that Hemans and his coworkers had decided to concentrate their efforts in that direction. What was surprising, though—and disturbing—was that they'd decided to cross the line that the European Court had drawn regarding the uses to which human genes could be put. What was even more surprising, to me—and even more disturbing—was that the way Hemans looked at me when I sat down to question him; he showed not the slightest trace of guilt or shame. That made me wary, and wariness made me even more punctilious than usual.

"First of all, Dr Hemans," I said carefully, "I've been asked to apologize on behalf of His Majesty's Government for the unfortunate deaths which occurred during the course of the police raid on Hollinghurst Manor. The police had reason to believe that a serious breach of the law had taken place, and they were proceeding in full accordance with the law, but they deeply regret the fact that so many of those fleeing the building refused to stop when challenged, forcing the Armed Response Unit to open fire."

"Never mind the bullshit, Hitchens," he countered, curling his lip disdainfully. "Are they going to charge us, and if so, what with?"

"OK," I said, easing my tone according to plan, in order to imply — falsely, and

perhaps not very convincingly—that there would be no more bullshit. "They haven't decided yet whether to charge you, or with what. There are several different schools of thought. As soon as they catch up with one of the escapers—and they will—the hawks will want to move. You have until then to make your offer, if you have one to make."

"Aren't you the one who's supposed to be making offers?" Hemans countered.

"No," I said. "I'm not. You're the one who knows whether the experiments being carried out at Hollinghurst Manor were illegal, and to what extent. You're the one who knows the identities of the children who were living in the house, and the extent of the irregularities surrounding the registration of their births, their schooling, and whatever else might turn up. If you want to offer explanations and excuses before the police draw their own conclusions, you'd best do it quickly."

He didn't laugh, but he didn't seem to be intimidated either. "You must have determined the identities of the ones you killed," he said.

"On the contrary," I replied carefully. "The police haven't been able to match the bodies with any public records or any missing persons. That is, in itself, cause for concern. There is no record of any application for the custody of any children having been made by you or any of your colleagues, so the police are completely at a loss to understand how they came to be resident in the house—or why, given that they were resident in the house, they don't appear to have attended school or to be registered with a doctor, or ..."

"This is a waste of time," Hemans interrupted. "If you're just going to pretend that you don't know anything, I think I'll wait for the formal interrogation, when my lawyer can decide how little I ought to say."

"I spoke to one of the children in the aftermath of the fire," I told him abruptly. "She seemed to believe that she wasn't the product of a human womb. Did you tell her that?"

"We told her the truth about her origins," he answered.

"And what was the truth?" I asked.

"That she was the product of a scientific experiment."

"An illegal experiment?"

"Certainly not. Neither I nor any of my colleagues has ever transplanted any human genes into any other animal. We have been exceedingly careful to work within the existing law."

"But you haven't published any of your work," I pointed out. "You haven't applied



for any patents. Even by private sector standards, that's unusually secretive."

"We haven't published because the work wasn't complete," Hemans retorted, "and now, thanks to your murderous interference, it never will be. We haven't applied for any patents because we aren't ready. Not that it's any of your business—or anyone else's. Rawley, Brad and I were able to finance this project ourselves."

"The police didn't set fire to the house," I pointed out. "It isn't their fault that your equipment and records were destroyed. You did that yourselves."

"No, we didn't," Hemans lied. "The fire was an accident—the result of the confusion generated by the raid."

"Your work wasn't merely self-funded," I pointed out, not wishing to pursue that particular red herring. "It was clandestine. You've made every possible effort to keep it secret. You seem to have been using children as experimental subjects—children of whom there is no official record of any kind. Even if they were your own children, that would be illegal. If they aren't . . . there's a great deal that requires explanation."

"And you already know what the explanation is, so we'd make better progress if you cut to the chase."

"I'm sorry," I said, "but I don't know any such thing. I don't know that the story the girl gave me was anything but a pack of lies, cooked up to make your work seem much more successful than it was. We can't interrogate the dead, so we have no way to know whether the individuals identified by genetic fingerprinting as pigs in human form were capable of speech, let alone rational thought. I'm certain in my own mind that the scene in the cellar was staged—how else would the three of them have been able to disappear, given that the exit they were ostensibly aiming for was blocked?"

"Maybe they found another," Hemans said. "Who did you talk to?"

"She called herself Alice."

"We all called her Alice," he assured me. "She's not among the dead, then? And she did get away from the gunmen?"

"They *will* find her," I told him. "Whoever and whatever she is, she can't hide. Wherever she went, there'll be a trail. This is the twenty-first century. *Nobody* can hide for long."

"That includes the people chasing her," he pointed out. "It's one thing to surround a house in the middle of a wood for one night only, and quite another to conduct a nationwide manhunt for weeks on end. How many are you looking for?"

"How many were there?"

He still didn't smile, but he knew that that was one of the best cards he held up his sleeve. If we'd been fooled into thinking there were at least seven, when there were really only four, we might keep searching for a long time—and he was right about the difficulty of hiding a nationwide manhunt, whether that was the right word for it or not.

"Why did you do it?" I asked him abruptly. "It's such a strange thing to attempt. Why did you even *try*?"

"You're a geneticist yourself, Dr Hitchens," he replied. "You, of all people, should understand."

I thought I did. I thought that now was the time to show him that I did. "If you really did do it," I said, "I can only conclude that it was by accident. I can't imagine that you had the least idea when you started out just how successful your experiment in Applied Homeotics would be. I can only suppose that you started out trying to figure out what the limits of embryonic plasticity were, and that you wouldn't have dared to superimpose a human anatomical template on the pig embryos if you had realized that it would work so spectacularly. Once you found out what the babies were actually capable of, you must have been thrown into a quandary, unable to decide what to do next—so you simply carried on, monitoring their development in secret, not knowing when or how to stop. You must have been grateful when the police finally made their move, taking the matter out of your hands."

He looked at me with what seemed to me to be a new respect. "You keep saying *if*" he pointed out, "but you don't really believe there's an if, do you? You know perfectly well that Alice is the real thing."

"I don't *know* it," I told him truthfully. "You're the one that *knows*. How clever is she, do you think?"

"Not so very clever," he told me feigning slight reluctance. "Precocious, but not so very far from the norm. Only human. But her parents were pigs, Dr Hitchens. We did do it—and we're prepared to defend ourselves in any court you care to haul us into. We're prepared to defend it all the way. I like your label, by the way. *Applied Homeotics* sounds so much more dignified than Brad's *homeoboxing*. If you know that that's what it is, you must also know that it isn't going to go away. Not now."

Hemans didn't just mean that he and his colleagues were prepared to defend the legality of their experiment and the merits of their new biotechnology. He meant that they were prepared to defend the humanity of its first products. Maybe he was just a little bit grateful to have his hand forced, but he had decided long ago exactly how he would play it when the forcing started. He might have fallen into a godlike role by accident, but he had accepted the responsibility that went with it. Our side hadn't, yet. Our side had gone in blind and trigger-happy. That wasn't my fault, but I'd have to carry the can along with everyone else if things continued to get more and more screwed-up.

"I also know that it can't be *merely* a matter of tweaking development times," I said. "Pigs may have homologues of ninety-eight point six per cent of human genes, but that still isn't enough. Whatever you told Alice, you had to make up a substantial fraction of the remainder. Maybe you copied the sequences from a contig library, used YACs to multiply them and then delivered them into the embryo by retrovirus, but that doesn't make it legal. Human sequences are human sequences, even if you build them base by base, and when you transplanted them into pig embryos you broke the law."

"We didn't transplant anything," Hemans insisted. "We didn't break any laws. Put us in the dock and we'll prove it. But you don't want to do that, do you?"

"That depends," I hedged—but his lip curled again, and I knew that I had to play the game more openly than that. "You have to give me more," I went on. "You have to give me some idea of what you actually did, if you didn't transplant the human sequences."

"Why should I?" he countered bluntly.

I wasn't speaking for myself, but I had to make the offer. "Because we might still be able to put this thing away," I told him. "We might not be able to unmake the discovery, but we might be able to save ourselves from its consequences, at least for a while."

"No," he said wearily as well as firmly. "We can't. We thought about it—Rawley, Brad and I—but we decided that we couldn't. We're not policemen, Dr Hitchens, we're not politicians and we're not lawyers, we couldn't put it away, and we still can't. Not because it wouldn't do any good, although it wouldn't, but because it simply wouldn't be right. We're not going to cooperate, Dr Hitchens. We're not going to take it to the bitter end. They're human, and every ovum produced by every animal on our farms and in our zoos is potentially human. That's the way it is, and we can't just ignore the fact. We can't make any deal that doesn't make the whole matter public."

"You were the ones who never published," I pointed out. "You were the ones who kept on working in secret."

"It *wasn't finished*" he told me. I was sure that he wasn't trying to wriggle out of it.

"If you're telling the truth," I told him, "it never will be. But you still have to convince me of that."

He was still looking at me with faint disgust, because of what he thought I'd become, but in the end he had to loosen up. Like me, he didn't have any alternative.

Even when we'd reviewed the tape and gone through it step by step, the senior

Special Branch men and most of the Home Office staff still didn't get it.

"OK," said the Unit's top man, "so the one you talked to was smart and kind of cute—but she isn't ever going to get to court, let alone to daytime TV. She's a pig. An animal. We *can* send her to the slaughter-house. We can get rid of them all, if we decide that's the appropriate thing to do."

"We wouldn't necessarily have to go that far," one of the junior ministers put in. "Once people know what she really is, that will colour everyone's view of her. It doesn't matter how cute or clever she is, nobody is going to make out a serious case for making any more like her. Let's not throw the baby out with the bathwater here."

What he meant, of course, was "let's not throw the bathwater out with the baby." He figured that there might be useful purposes to which the technics might be put—secret purposes, of course, if the legal advisers decided that the whole area was legally out of bounds, but government-approvable purposes nevertheless. He was thinking about designing ultra-smart animals for use as spies and soldiers. He'd probably been a fan of the wrong kind of comic books in his youth. He wasn't thinking *Boy's Own* adventures; he was thinking *Reality is What You Can Get Away With*.

The permanent Under-Secretary knew better, of course. "She was right about the records," he observed reflectively. "The fact that we failed to recover them makes it a mystery. As soon as the rumour spreads that you can turn animal embryos into passable human beings with standard equipment and a chicken-feed budget, everybody and his cousin will be curious to know how it's done. We left it far too late to make our move and I'm talking years, not weeks. We should have applied the new laws as soon as we had reason to believe that they'd been broken."

"Without the records," I said quietly, "there's no way to be sure that even the new laws *have* been broken. And that makes it an even better mystery."

"She's a *pig*, Hitchens," the plain-speaking policeman pointed out. "She's a pig that looks like a little girl. If that isn't illegal genetic engineering, what is?"

"If Hemans is telling the truth," I said, "Applied Homeotics isn't genetic engineering in the legal sense at all. He had to make up most of the missing one point four per cent somehow, but if he'd simply tried to transplant or import it he'd probably have failed in exactly the same way that most other attempts to transplant whole blocks of genes have failed. Assuming that what he told me was true—and I'm inclined to believe him—his way is *much* better, and it's not against the law. If this ever gets to court, we might have to hope that the backup records really have been destroyed—because if they haven't, and Hemans, Rawlingford and Bradby can use them to mount a successful defence, we're going to look really stupid."

"That won't happen," the permanent Under-Secretary said. "If they want any kind of life after acquittal, they'll make a deal. They'll give us their secrets *and* they'll sign a

nondisclosure agreement. The real question is whether other people will be able to duplicate their work anyhow, guided by the knowledge—or even the rumour—that it's *possible*."

"Who but the wackos would want to?" asked the chief inspector. "Do you really think the world is full of people who want to turn out imitation human beings? Even the worst kinds of animal liberation lunatics aren't about to start clamouring for every piglet's right to walk on two legs and wear a dress. This is the real world. Some animals are a hell of a lot more equal than others, and we're them, and that's the way it's going to stay."

It was time to cut through the bullshit to the real heart of the matter. "You're not taking Alice seriously enough," I told them. "You haven't listened properly to what she and Hemans said. Suppose she's right. Suppose she isn't a pig pretending to be a human. Suppose she really is a human."

"She's not," the policeman said flatly. "Genetically, she's a pig. End of story."

"According to her," I pointed out, "genetics doesn't enter into it. Human is as human does — and her brothers and sisters were the ones who got gunned down because they didn't believe that their fellow men would open fire on a bunch of unarmed children. Without her school records, and until she consents to be tested again, we can only guess at her IQ, but on the evidence of my conversation and Hemans' assurances I'd be willing to bet that it's a little bit higher than the average teenager's. You haven't yet begun to consider the implications of that fact."

"If pigs in human form are smarter than real humans, that's all the more reason for making sure that all the world's pigs stay in their sties," the man from Special Branch insisted. The minister was content to listen, for the time being.

"If Hemans is telling the truth," I went on, disregarding the policeman's interruption, "he and his colleagues didn't need to trans-plant any genes to make her human. DNA analysis of the dead bodies supports that contention. The difference between a human being and a chimpanzee, as Alice pointed out, is very small. The most important differences are in the homeotic genes—the genes that control the expression of other genes, thus determining which cells in a developing embryo are going to specialize as liver cells or as neurons, and how the structures built out of specialized cells are going to be laid out within an anatomical frame. If you have an alternative control mechanism which can take over the work of those controlling genes, they become redundant—and as long as the embryo you're working with has the stocks of genes required to make all the specialized kinds of cell you need, you can make any kind of an embryo grow into any form you required. You could make human beings out of pigs and cows, tigers and elephants, exactly as Alice said—and vice versa."

"That's bullshit," the policeman said. "You've said all along that they had to make up the difference. We have to have the extra genes that make us human."

"That's true," I agreed, wondering how simple I could make it, and how simple I'd need to make it before he could understand. "And until today I'd assumed, just as you had, that the extra genes would have to be transplanted, or that they'd have to have synthesized from library DNA and imported—but that almost never works with whole sets of genes, because mere possession of a gene is only part of the story. You have to control its expression — and that's what Applied Homeotics is all about. We've become so accustomed to genetic engineering by transplantation that we've lost sight of other approaches—but Hemans and his friends are lateral thinkers. We didn't get to be human by having genes trans-planted into us—we grew the new genes *in situ*. Only a few million of the three billion base pairs in the human genome are actually expressed, but it's an insult to the rest to call it junk DNA, the way we used to. Most of it is satellite repeat sequences, but in between the satellites there are hundreds of thousands of truncated genes and pseudo genes, all of them in a constant state of crossgenerational flux because of transposition activity.

"Pigs may only have homologues of ninety-eight point six per cent of our genes, but they also have homologues of almost all the protogenes making up the difference. Those protogenes are not only present within the pig genome, they're mostly in the right sites. Hemans, Rawlingford and Bradby didn't need to transplant any human DNA—all they had to do was tweak the pig DNA that was already in place. And as Alice said when she had me trapped in Wonderland, if you can do it to a pig, you can do it to a cow—and given that the common ancestor relating us to rats and bats seems to be more recent than the one relating us to pigs, you can probably do it to a hundred or a thousand other species."

"It still sounds like bullshit to me," the policeman repeated, as if he were some obstinate DNA satellite hopelessly intent on taking over an entire genome.

"You may not like its implications, Chief Inspector," I said tiredly, "but that's not enough to make it bullshit. I don't know *exactly* how Hemans did it, because he isn't going to tell us until he gets some guarantees, but I already know how I'd go about trying to copy the trick, now that I know that it can be done. Transforming and activating the protogenes is probably the easy part, given that every sequencer in the world is avid to learn how to write as well as read the language of the bases. I'm pretty sure I could figure out a way to do that. If I could also figure out a way to delay an embryo's phylotypic stage—that's the moment at which the control of an embryo's development is transferred from the maternal environment to the embryo's own genes—I might be able to stop the homeotic genes kicking in at all. Given that the onset of the phylotypic stage is much later in some species than others, that doesn't seem to be any great hurdle to leap. A careful inspection of the research Hemans, Rawlingford and Bradby published before they got together at Hollinghurst Manor suggests that they were probably using human maternal tissue as a mediator in the embryonic induction process. That's not genetic engineering, of course—there's no law against interspecific transplantation of mature tissues or the use of human somatic cells in tissue cultures. Believe me, sir: Applied Homeotics is a

whole new field of biotechnology. None of the existing rules apply."

"So you're telling me that every fucking farm animal in the realm—not to mention every household pet—is potentially human?" The Special Branch man was looking at me with as much contempt and distaste as Hemans had, but with even less justification.

"No," I said patiently. "I'm telling you that the embryos they produce as parents are now potentially human. It still adds a whole new dimension to the ethics of animal usage, but we don't yet know how far that dimension extends. We can be reasonably sure that birds and reptiles don't have the required stocks of protein-template genes, and some of the smaller mammals probably don't have them either, but the question of where the limits of potential metamorphosis actually lie is a minor one. The point is that unless we're the victims of a monstrous hoax, humanity is determined almost entirely by the development of the embryo. If so, Hemans is right. Alice and all her kind are as human as you or I. An even more important question, of course, is what this kind of technology might allow us to make of human beings."

I paused for effect, but nobody jumped in with an exclamation of astonishment. They were all waiting, guardedly, to see what came next.

"We, after all, are merely *nature's* humans," I told them. "We're a product of the rough-and-ready process of natural selection, and control of the expression of *our genes* has been left to other genes. Homeotic genes were never an ideal solution to the problem of embryo-formation — they were just the best improvisation that DNA could come up with on its own. Alice's humanity is the product of relatively unskilled artifice—and the evidence we've so far seen suggests that relatively unskilled artifice might already be the slightly better maker of men. If it isn't, then it certainly will be, just as soon as we bring our ingenuity fully to bear on the problem.

"The genie's out of the bottle, gentlemen. We can pass all the laws we like against the genetic engineering of human beings, and we can make sure if we care to that what Hemans, Rawlingford and Bradby have actually done to pig embryos will in future fall within the scope of those laws—but that won't alter the fact that human beings and the world they have made are imperfect in more ways than any of us would care to count, and that Hemans, Rawlingford and Bradby have found a new way to allow us to set to work on those imperfections. If Alice is telling the truth, we've already passed through the looking-glass, and there's no way back. You might be able to stop the animals walking and talking, but you won't be able to stop the people. If a mere pig can be a better human than any of us, *imagine what our own children might become, with the proper assistance!*"

The minister and his junior nodded gravely, but that was just the legacy of good schooling by their image-consultants. The chief inspector looked dumbfounded. The permanent Under-Secretary was the only one who was keeping up, after his own crude fashion. "You're talking about building a Master Race," he said reflexively. If in doubt, hoist a scarecrow.

"I'm talking about D-I-Y supermen," I told him frankly. "I'm talking about something that can be done with standard equipment on a chicken-feed budget, after a little bit of practice on the family pet. I'm talking anarchy, not mad dictators. If you intend to make a deal with the three Musketeers, you need to know what cards they're holding. It's still conceivable that they're bluffing, and that Alice was just feeding us a line, but I can't believe that—and if they're *not* bluffing, the old world has already ended. The GE-Crime Unit will catch up with the runaways eventually, but it's already too late. Their story has been told, and *will* be told, again and again and again."

Nobody told me I was crazy. The policeman might have lacked imagination, but he wasn't stupid enough to continue to argue that his reflexive prejudices were worth more than my educated judgment. "We could still shoot the lot," he muttered—but he knew, deep down, that it wouldn't do the trick, even if that option could be put back on the agenda.

"What can we do?" asked the permanent Under-Secretary, who had already moved reluctantly onto the next stage.

I knew that it wouldn't be easy to persuade him, but nobody ever said that working for the Home Office was going to be easy. The instinct of government is to govern, to take control, to keep as tight a hold on the reins as humanly possible.

"Basically," I said, "we have two options. We can be Napoleon, or we can be Snowball. Neither way will be easy—in fact, I suspect that all hell has already been let loose—so I figure that we might as well try to do the right thing. For once in our lives, let's not even try to stand in the way of progress. I know you're not going to be grateful for the advice, but my vote is that we simply let them all go and let them get on with it."

"Let public opinion take care of them, you mean," the junior minister said, still trying his damndest to misunderstand. "Let the mob take care of them, the way they take care of child molesters."

"No," I said. "I mean, let artifice take its course. Let the pioneers of Applied Homeotics do what they have to, and what they can. Even the pigs."

It *wasn't* easy to persuade them, but Hemans and his collaborators had a battery of lawyers on their side as well as reason and stubbornness, and in the end, the situation simply wasn't governable, even by the government. Eventually, I made them see that.

They weren't grateful, of course, but I never expected them to be. Sometimes, you just have to settle for being right.

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By the time I saw Alice again she was twenty-two and famous, although she never went anywhere without her bodyguards. She came to my lab to see what I was working on, and to thank me for the small part I had played in winning her precarious freedom.

"You did save my life," I pointed out, when we'd done the tour and had time to reflect.

"That was Ed and Kath," she admitted. "They were the ones who picked you up and dragged you down the stairs. All I did was hit you with the axe when you tried to grab it."

"But you hit me with the flat bit, not the edge," I said. "If you'd hit me with the edge, I'd be dead—and so, I suspect, would you."

"They really wanted to kill us all," she said, as if it were still very hard for her to comprehend.

"Only some of them—and only because they didn't understand," I told her, hoping that it was the truth. "None of us understood, not even Hemans, Rawlingford and Bradby, although they'd had longer to think about it than anybody else. None of us really understood what it meant to be human, because we'd never had to explore the limits of the argument before—and none of us understood what scope there was for us to be more than human. We simply didn't realize how easy it is to be creative, once you have the basic stock of protein-producing genes — and protogenes—to work with. Maybe we should have, given what we knew about the diversity of Earthly species and the unreliability of mutation as a means of change, but we didn't. We needed a lesson to bring it home to us. How does it feel to be accepted as human just as the species is becoming obsolete?"

"My children will have the same chances as anyone else's," she pointed out. I wasn't so sure about that. She was now as human as anyone else, in law as well as in fact, but there were an awful lot of people who hadn't yet conceded the point. *My* children, on the other hand, really would have opportunities of which I had never dreamed ten years before; the people who wanted to reserve the privileges of creativity to imaginary gods wouldn't be able to stop me making sure of that.

"I was sorry to hear about Hemans," I said. Hemans had been taken out by a sniper eight months before. I had no reason to think that he and Alice were particularly close, but it seemed only polite to offer my condolences.

"Me too," she said. "It always upsets me to hear about my friends being shot."

"What happened at the manor really wasn't a conspiracy," I told her, although I'd never been *entirely* sure. "It was a genuine mistake. It's in the nature of Armed Response Units that they sometimes make mistakes, especially when they're working in the dark."

"I remember Dr Hemans saying the same thing, afterwards," she admitted. "But some mistakes work out better than others, don't they?" She wasn't talking about the wayward ways of mutation. She was talking about the freak of chance that made me go on when I should have turned back, and the one that had made Ed and Kath pause to pull me out of the fume-filled corridor and down the cellar steps to safety. She was talking about the freak of chance that had made me go on when things got tough at the Home Office, blowing my career in government in order to make sure that nobody could put a lid on it even for a little while, and that the government couldn't even make a convincing show of governing the unfolding situation. She was talking about the mistake that Hemans and his colleagues had made when they decided to try something wildly ambitious, and found that it succeeded far too well. She was talking about the fact that science proceeds by trial and error, and that the errors sometimes turn out to be far more important than the intentions.

"Yes they do," I agreed. "If that weren't the case, progress wouldn't be possible at all. But it is. In spite of the fact that every significant advance in biotechnology is seen by the vast majority of horrified onlookers as a hideous perversion, we do make progress. We keep on passing through the looking glass, finding new worlds and new selves."

"You've been practising," she said. "Do you really think you can talk yourself back into the corridors of power?"

"Not a snowball's chance in hell," I admitted. "But I did my bit for the revolution when I had the chance—and there aren't many of nature's humans who can say that, are there?"

"There never used to be," Alice admitted. "But things are different now. Human history is only just beginning."

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