

Changing the Blueprint

by

Barbara Davies

"I must go, Mrs. Hansen," said Helen. "I'm late as it is."

Helen watched Nurse Hansen gaze at the unmade bed, the crumpled clothes left lying where they had fallen last night. The nurse said nothing; she didn't need to. Helen sighed.

"He had a reasonable night," she continued, searching the clutter on the dressing table for her lipstick and hastily applying it. "And I've just changed him." She nodded at the soiled diaper on the carpet beside Justin's cot.

The other woman's gaze softened at this sign of maternal devotion. "Get along then, Mrs. Stevens. I'll sort things out here."

"What would I do without you?" Helen grabbed her car keys and ran for the door.

The first thing that struck Helen was the acrid smell of ammonia. The second was the chaos. White-coated technicians were everywhere, tapping keyboards, transferring squirming rats and squeaking guinea pigs from one cage to another. She sidestepped as a preoccupied young man almost collided with her, muttered an apology, then squeezed past.

"It's at the far end of the lab, Mrs. Stevens," said Dr. Williamson, pointing.

He shepherded her between cramped workbenches stacked with humming apparatuses to where a spectral lime-green rabbit seemed to float in mid-air. Helen looked around for the MGF detector. That must be it, she thought, though the gleaming hi-tech device bore little resemblance to the ramshackle box that had won its inventor the Nobel Prize two years ago.

Williamson stroked his shaggy moustache with a finger and thumb. "This display, created by my MGF detector, shows the outcome of all the rabbit's currently active morphogenetic fields."

Helen nodded. She knew about MGFs, about the fact that Dr. Brandon Williamson had proved Sheldrake's controversial Hypothesis of Formative Causation. But it was old news. "So, thanks to Williamson, we can detect morphogenetic fields," she had told Sandy, the Features Editor.

"So what?"

"So I'll go and find out what this new 'breakthrough' of his is. He's offered us an exclusive!"

She peered through the detector's perspex viewing panel. Cradled in gauze at the center of the sensor array lay a pink embryo the size of her little fingernail. Each time it moved, a ripple of distortion passed across the hologram--the sensors adjusting to the new position.

Helen's stomach lurched. "But it's" She couldn't bring herself to say the word.

"Deformed? Yes, its right foreleg is missing," said Williamson complacently. "The morphogenetic germ of the leg exists, but it has the wrong field attached to it. Take a closer look."

She stared at the holographic representation of what the embryo would become. It, too, had only three limbs.

"Watch." He tapped instructions into a keyboard.

The hologram shimmered. A blurry pink outline appeared where the foreleg should be.

"What are you doing?" asked Helen.

"I'm taking a copy of the left foreleg's MGF, reversing it, and attaching it to the right foreleg's germ."

The pink blob came into sharp focus, forming a ghostly but perfect rabbit foreleg.

"There," said Williamson, grinning. "In a few hours, a new leg will start to grow. We've tried it on mice, guinea-pigs . . . now rabbits. It works on potentially any organ, on any species."

Helen's pulse began to race. "Would this work on something older than an embryo--a year old maybe?"

Williamson shook his head. "MGFs can only direct chemical and biological processes that are already active. By the time an animal has passed beyond the embryonic stage . . ." He shrugged. "Maybe one day."

'One day' wasn't soon enough. She tried to keep the anguish out of her voice. "So this is your breakthrough? You can now not only detect and map MGFs but also change them?"

He nodded. "Think of the potential." His grey eyes stared into the distance. "Doctors could check a fetus's MGFs while it was still in the womb and correct any abnormality. We could even improve on standard human MGFs--erase the appendix, for example. Initially, it would be on a fetus by fetus basis, but then morphic resonance would take over. The more certain characteristics appear, the more likely they are to appear, or, in this case, disappear! We could change humanity's blueprint for good."

Williamson became aware of his surroundings again and flushed. "But it's early days yet, Mrs. Stevens. I'm still trying to get approval for human trials. Some of my peers think I'm playing God, others . . . well. It might be wise to tell your readers not to get their hopes up just yet."

"I understand, Doctor," said Helen sadly.

Helen put down her cup and stared out of the misted window at the museum-like building two doors down from the seafront café.

The Odditorium had opened to huge publicity and controversy just over a year ago. Some people felt "freak shows" were barbaric and had no place in the new millennium; others argued that the shows provided much needed income for the grossly disabled. Whatever the pros and cons, the Odditorium was a major attraction in a town desperate for tourists. Helen hadn't plucked up the courage to visit.

The wind hurled sea spray halfway across the Promenade. The raincoats of the people lined-up outside the Odditorium flapped like sails, and multi-colored golf umbrellas threatened to turn inside out. The double doors swung open, and the line disappeared inside.

An advertisement trumpeted in bold red lettering: "The Mythical Creatures of Ancient Greece. Centaurs and satyrs, alive and well at the Odditorium!"

Helen remembered reading that the current exhibit was a "mermaid"--probably just a severely handicapped woman desperate for money. We're turning into a nation of voyeurs, she thought. Taking advantage of the vulnerable and damaged. She sighed. Thank God Williamson's breakthrough meant there would soon be fewer damaged babies . . . and fewer freak shows.

Only her deadline had torn her away from watching the rabbit embryo until a bud of cells formed where the missing foreleg should be. She had filed her copy an hour

ago.

She dipped her finger in the tepid coffee and watched a dirty blue truck pull up in front of the Odditorium. The driver, a big man with greasy black hair, got out and turned up the collar of his donkey jacket against the driving spray. Another man, more smartly dressed, his hair a springy mass of blond curls, joined him. They manhandled several large tea chests out of the truck and wheeled them around the side of the building.

Helen frowned. There was something familiar about the second man. Then it came to her. He had almost collided with her in Dr Williamson's lab that morning. What the hell was a lab technician doing delivering tea chests to the Odditorium?

That night was one of the bad ones, and Helen was glad when morning came. Justin's whimpering had grown more fretful than ever in the early hours, and in the end she had crushed a sleeping tablet and added it to his feeding solution, resisting the impulse to add several more and end his suffering once and for all.

The temptation to swallow the tablets herself was almost as great. Perhaps Peter had been right to walk out on them. She felt the familiar surge of anger at her ex's actions, followed quickly by envy and then, inevitably, guilt.

Finally, thankfully, Justin slept, and Helen was able to close her eyes.

Helen yawned. The piece on tourism in the north west of England--slanted to show their own resort in a good light, of course--wasn't inspiring enough to offset her tiredness.

She stretched and walked to the research desk where a narrow-shouldered young man frowned at his VDU. Kevin's fingers paused on the keyboard, and he raised one eyebrow at her. "Help you?"

Was I ever that bright-eyed and bushy tailed? she wondered, envying the clear whites of his eyes. Her own, she suspected, were bloodshot.

"I need information on Dr. Brandon Williamson, the Nobel Prize winner," she said. "From about two years back. I'm especially interested in the names of his researchers."

"Sure thing. Beep you when it's done, yeah?"

Helen nodded, then crossed to the drinks machine. Maybe another dose of caffeine? When she returned to her desk, a message from Kevin beeped on the screen. She sat down, tapped a few keys, and watched the information scroll up.

She found a picture of Williamson's research team at the time of his Nobel Prize. As she panned along the rows of grinning faces, crowded into frame like an old school photograph, one leaped out at her. Tousled blond curls, slightly longer then, but it was undoubtedly the man who had delivered something to the Odditorium yesterday afternoon. She counted along the names until she reached his--Wade Dignal.

Another request to Kevin produced more information about Dignal. He was 26, unmarried, and lived alone in a brand new bungalow in the old quarter of town. He was part of the town's "in" crowd--into drink, drugs, parties, and he changed girlfriends as often as his souped-up cars. Hardly your typical shy, retiring lab technician!

Kevin explained that it was illegal to access financial information before cheerfully hacking into local bank records. Dignal was doing remarkably well. For the last eighteen months, a sizeable monthly sum was deposited from 21st Century Bioservices Ltd. into his account. The company specialized in "made to measure" lab

animals and had only three employees, which might explain why Dignal had been lugging tea chests.

The company's most recent set of accounts revealed that a surprising amount of money could be made from lab animals. Dignal must be using information gleaned from Williamson's lab to give his company a competitive edge. Helen realised suddenly who had supplied Dr. Williamson's rabbit embryo and wondered if he knew its deformity was deliberate.

She sighed. Dignal's activities pushed the boundaries of morality, but they were not illegal. Yet, one other question was still outstanding: what would a place like the Odditorium want with "made to measure" lab animals?

It was nearly closing time at the Odditorium, but a sizeable line waited where a chain barred further progress. Helen joined the end.

A middle-aged woman in a red-and-black uniform arrived saying, "Everyone ready?" She undid the chain and set off over the plush crimson carpet. Eagerly, the tourists, and, less eagerly, Helen followed.

The air-conditioning couldn't erase the fustiness of the first room. After peering at dozens of decaying, stuffed creatures in glass cases, among them a fifteen-foot-long ribbon fish, a mummified seal, a two-headed calf, and a winged hedgehog that was obviously fake, the tourists began to get restless and Helen had the beginnings of a headache.

The guide hurried them on to the next room where the air was fresher and the technology more modern. A continuous holofilm was showing. Helen eased herself along a cramped row of chairs and sat down, staring at the 3D figure on the podium. A man, old, skinny, and black as coal, grinned before dislocating his joints--the sharp clicks made Helen queasy. She took a deep breath. Luckily, the Human Slate turned out to be nothing more than a housewife whose skin was so sensitive the mere brush of a feather raised a welt. Then, the Human Unicorn came on, a Chinese man with a bony growth jutting from the back of his skull. The rest of the audience made appreciative oohs and aahs and "isn't it disgusting" noises, while Helen turned away and concentrated on controlling the contents of her stomach.

"This is more like it!" whispered a young man to his girlfriend.

Helen rose to leave then remembered why she was there and sat down. She had seen nothing yet that might have been recently supplied by 21st Century Bioservices Ltd. She sighed, wondering if this was just a wild goose chase.

The film looped back to the beginning, and the lights went up.

"Ready for the next exhibit?" asked the tour guide, ushering her charges through another door.

Pitch darkness met them, and the air felt warm and humid. Helen sensed that something about this exhibit was different. The tourist chatter died away, replaced by an expectant silence.

How big the room was, she had no idea. But sounds seemed to echo. She heard water dripping and a faint splash.

"Please move to the front," said the tour guide, her voice startling Helen.

Obediently, she shuffled forward, hands outstretched to prevent bumping into anything, until her fingertips felt a railing. Around her, she heard the other tourists doing likewise. Then, the lights came up slowly.

The curving walls and ceilings were made of something grey and rocklike in texture, and the floor beyond the railing glistened and rippled. In the middle of the shallow pool was a massive boulder. Something was sitting on it, draped half in and

half out of the water. As the light brightened, a loud gasp echoed around the grotto.

Helen thought at first it was a child sitting on the boulder. But those were adult breasts hidden beneath the long gold tresses. She stared in disbelief at the fishlike tail.

How the hell had the Odditorium done it? A hologram? But the way the water rippled when the tail moved indicated something solid, physically present. A mannequin, then? Yet it seemed to be breathing, just like a living thing.

The golden head moved, and the mermaid looked at the front row of tourists and smiled. Helen caught her breath and gripped the railing as the blue-eyed gaze locked with hers for a moment before moving on. Shit! she thought. It's real! No, she's real.

"Ladies and Gentlemen, Phoebe the Mermaid," said the tour guide. "Would you show your appreciation, please?"

The audience clapped enthusiastically. For a brief moment, Helen allowed herself to share their exuberance. The legends were true! Mermaids existed and the Odditorium had managed to find one! Then, the illusion shattered.

Nature wouldn't have created something as unfitted to its environment as this. Where were the gills? If the poor creature tried to swim, she would drown. And without legs, dry land would be an unfriendly place too. But if not Nature

Helen put her mouth closer to the phone. "I'm at the Odditorium now. I've just seen a mermaid, a centaur, a satyr, and a minotaur! No way are these humans with natural disabilities."

"Is this a joke, Mrs. Stevens?" Williamson sounded annoyed.

"I'm extremely serious," she hissed. "Wade Dignal must have built a copy of your device and used it on human embryos. Not only has he substituted MGFs from fish and goats, he's changed normal fields to produce adult characteristics." Those poor children, she thought. For a moment, she was too upset to continue.

"I'm sure you must be mistaken, Mrs. Stevens," came Williamson's voice at last. "Wade Dignal--"

"I checked the store rooms. The tea chests are in there, empty now, of course. There were air holes, and straw. He must have transported the children in them."

"Not only is such a thing outrageously unethical but the consequences of changing MGFs haphazardly are very serious, and Dignal is fully aware of that. Look, he's finished for today, gone home. Let me talk to him tomorrow. I'm sure this is just a misunderstanding which can be straightened--"

"You should see them, Doctor. Apart from their size--presumably he was unwilling to wait for them to mature naturally--they're like creatures straight out of ancient myth. It takes time to perfect something like this. How many children did he have to destroy before he got it right?" She felt a surge of nausea at the thought and swallowed.

When Williamson spoke again, his tone was worried. "Mrs. Stevens, supposing you're right, and he has been experimenting for as long as you suggest, it's not just the children we need to be concerned about."

"No?"

"Morphic resonance," he said. "Make enough changes to human MGFs and they may start to affect the rest of the population."

Mrs. Hansen looked up in surprise. "Mrs Stevens! I didn't expect you home for another--"

"I have to see Justin." Helen crossed to the cot and reached for her son, careful

not to dislodge the various tubes and drips dangling from his abused little body.

"Is something wrong?"

She was aware of Mrs. Hansen's anxious gaze. "I just want to be with him for awhile. I'll call you when I've finished."

Mrs. Hansen shrugged and left the room.

Helen sat on the bed, cradling Justin in her arms, wrapping the blanket around his legs and feet. She tickled his chin, and he smiled. Her eyes stung. When other people saw the strange bulging forehead, the eyes turned almost back on themselves, the deformities beneath the blanket, they saw a freak, pure and simple. But he was much more than that.

The doctors had said he wasn't aware of much. Did he know it was his mother holding him? she wondered. She must smell different from Mrs. Hansen, mustn't she? And sound different? Probably the way she held him was different, too.

"Mummy found out something today, Justin," she told him, knowing he couldn't understand. "She found out that a bad man made this happen to you, a man named Wade Dignal . . ."

As she articulated the thoughts that had been circling in her head since her conversation with Dr. Williamson, numbness turned into a rage so strong she was almost giddy. She hugged Justin tighter, felt him squirm in protest and begin to whimper.

If she and Williamson turned Dignal in to the authorities, the worst that could happen was a prison sentence, a few years, probably. Then, he would be free. Justin would never, ever be free.

She rocked Justin for a few moments more. Then, she rose, kissed her son gently, and replaced him in his cot. "Mummy's got to go now, darling," she said, straightening his blankets. "Mummy's got something very important to take care of."

Helen listened to the crackle and stared at the flickering orange glow. Her cheeks felt hot, her eyes gritty from the intense heat. Watching the flames was oddly calming.

In the distance, she heard sirens. But the fire engines would be too late, much too late.

The desperate banging from the inside of the bungalow's double-glazed windows had ceased not long ago, and there was now no sign of Dignal's beetroot-red cheeks, terrified eyes, and singed blond curls. She didn't know whether the smoke had got him, or the flames. And she didn't care.

The breeze shifted, wafting the smell of burning wood and scorched bricks towards Helen. A roof timber cracked, and slates began to slide and crash down onto the drive, splintering on the concrete slabs. She wiped a stinging cinder from her cheek.

The fire engines arrived followed by three police cars, tires screeching. "Get back, Miss," said a burly fireman, unreeling his hose. "It's not safe."

She shrugged and stepped back, watching the ribbon of hose swell like a sausage as water hissed along it. There was a loud sizzling as the first drops met the flames.

Suddenly, Dr. Williamson was standing next to her. He must have arrived in one of the police cars. "Why couldn't you leave this to the proper authorities?" he asked. His gaze, flicking between her face and the bungalow, was horrified.

She glanced at him, then turned back to the already dying flames. "Justice for Justin," she murmured, aware that across the street a woman in a floury apron was talking to two policemen and pointing at her.

"I don't understand," said Williamson. "Justin?"

"My son," she said tiredly, "was born with no bones in his legs. They're useless, like some kind of flippers. There's brain damage too--he has epileptic fits. I have to feed him by tube."

Williamson stared at her. "I'm sorry about your son, Mrs. Stevens, but I still don't--"

"Neither did I until today. The doctors said what happened to Justin was no one's fault, but my husband couldn't accept that. He said my genes must be defective. And secretly, deep down, I thought Peter must be right. Can you imagine what it's like to blame yourself, every minute of the day and night, for someone's suffering, Doctor? Can you?" She sighed. "And now it turns out someone was to blame, but it wasn't me. Justin was born just over a year ago, not long after Dignal started tampering with human MGFs."

She wondered if a jury would understand. And then, belatedly, she began to wonder what would happen to Justin while she was in prison. Someone else would have to look after him. Unexpectedly, relief surged through her, quickly followed by guilt.

Someone took her left hand--a young woman police officer with short dark hair. Helen let cool fingers slip a handcuff over her wrist, then offered the right wrist too. A strong smell of gasoline wafted up from her own hands. The policewoman nodded and clicked the cuffs home.

An agitated Williamson stroked his moustache. "No one on the project could have foreseen Dignal would do this, Mrs. Stevens. No one."

Helen shrugged. "I wish I could believe that."

A pointed tug on the handcuffs directed her towards the waiting police car. As she climbed into the back seat and the policewoman squeezed in beside her, Helen glanced out the window. Dr. Williamson stood where she had left him, staring blankly at the bungalow. Now, he'll know, she realized. Now he'll know what it's like. And, as the police car pulled away from the curb, she felt a stab of pity.

For more on Barbara Davies, visit her website at <http://www.barbaradavies.co.uk>