

## Chapter 2

# The Mercy Dash

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—By Ray Hammond

‘I’ll only have four runs, darling,’ promised H el ene as she pushed herself up from the sunbed. She leaned in under the shade of the beach parasol and quickly kissed her new husband on his cheek.

‘Be safe,’ he told her, glancing up with a smile.

At the jetty the speedboat was waiting, its old-fashioned diesel engine ticking over with a low rumble. The newly-weds were at one of France’s most fashionable beach clubs—Club 55, at Pampelonne Beach, just outside St. Tropez—a venue that had managed to retain its super-exclusive cachet for over 75 years. Princess Grace and Brigitte Bardot had partied here in the club’s early years. And now, in the high summer of the year 2025, Europe’s beautiful people were still gracing its white sands and paying hyper-inflated prices for its drinks.

Few of the guests were as beautiful, or as fashionable, as Parisienne H el ene Guenier. Despite her 56 years, the tall and slender H el ene still drew admiring glances from the men, and from many of the women as, bikini clad, she tiptoed carefully across the hot sand to the boating jetty. Roger Guenier leaned up on his elbows to watch as his wife of only five days told the speedboat driver what she wanted. Even at a distance of a few hundred metres he could see the smile on the man’s face as H el ene’s natural charm worked its effect. Then she was out of sight briefly on the other side of the old wooden jetty as she slipped into the warm water to attach her skis. A beach club employee

jumped into the sea to make sure the guest's water skis were fastened tightly enough for safety.

With a subdued roar, the speedboat captain revved his engine, moved away from the jetty and slowly pulled out to sea to take up his skier's slack line.

Roger knew that his wife was an expert water skier—she had skied every day so far on their honeymoon—and he smiled as H  l  ne rose effortlessly to the surface, straightened her long, shapely legs and leaned back as the speedboat picked up speed. He could almost feel his wife's pleasure as a plume of spray rose up behind her skis. Her large dark glasses glinted in the morning sunlight and her highlighted-blond hair streamed behind her in the ocean breeze. In the distance, nearer to the horizon, was a line of moored megayachts which would soon be disgorging billionaire owners and their guests, keen to lunch and be seen at Club Cinq en Cinq. Others along the beach were watching admiringly as H  l  ne began her favourite figure-eight manoeuvre, jumping over the speedboat's wake as she crossed its path. The July sky was cerulean blue, the only disturbance two white jet contrails slicing eagerly southwards in almost parallel formation. At the far end of the beach the speedboat executed a wide turn and H  l  ne leaned low into the curve as the centrifugal force skimmed her at increased speed across the gentle waves. Roger picked up his book reader again, but he couldn't help but watch as H  l  ne began her return run. A jet ski revved noisily from nearby, momentarily distracting him. When he looked back H  l  ne was clear of the water, effortlessly leaping the speedboat's wake.

A moment later the water skier was pulling out in a wide arc from the boat's plume, when suddenly she seemed to halt abruptly, then fly up into the air before disappearing into a huge cloud of spray. Roger was on his feet, as were others on the beach, and they were running towards the water when the jet ski drove at high speed into the spreading cloud of spray.

There was a scream, the high-pitched snarl of a jet-ski engine and then silence.

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There was no doubt that the new diamond stud in his left ear looked cool—not too big, not too bling, just a tasteful statement about urban fashion and modern networking. And very retro—very Millennial. But to Billy Becker it felt strange hearing Sophie's voice deep inside his left ear, rather than hearing

her voice from his headphones or from the loudspeaker in his mobile. And his virtual assistant's voice was different now, smoother. Billy thought his VA sounded sexier.

'So what now?' asked Sophie, as Billy left the tech-care surgery.

The procedure had taken fifteen minutes and had involved fitting a micro in-ear amplifier and speaker and the multi-function diamond ear stud which replaced his old smart mobile device. The ear stud now provided all personal data processing and network management services that Billy needed and, what was really cool was that the device was powered entirely by Billy's own body movement. To complete the system Billy wore new light-sensitive, motion-powered wireless glasses that doubled as a heads-up visual data display. It helped that they had stainless steel frames and were definitely über-cool. The new system had been fitted with the latest software upgrade and his VA now seemed even more human as she whispered her question in his ear.

'Back to the studio,' Billy told her. 'I've got to finish the boardroom designs.'

'It seems strange to be this close to you,' said Sophie softly in his ear-drum. Billy nodded, his large mass of dark curls moving a fraction of a second later than his head. It also felt strange to him—and a little unsettling. Billy had programmed his virtual assistant's speech using samples of his own girlfriend's voice and, with the system's improved natural language interface, the virtual Sophie sounded almost exactly like the real Sophie; Billy joked with his friends that naming his virtual assistant after his live-in partner avoided any misunderstandings if he were to talk in his sleep. As he approached his car Sophie spoke again. 'Is it OK for Speedy to talk to you?'

'Now?' asked Billy, surprised. 'On my...'. He had been about to say 'mobile' but he realised he no longer owned a mobile.

'It's a new feature,' Sophie told him. 'And Speedy's been wanting access to your personal network for some time.' Billy felt in his pocket for his car remote.

'Well?' asked Sophie, almost impatiently.

'OK,' said Billy, smiling at the improved simulation of emotions his upgraded VA was exhibiting.

'There's been a traffic incident on the ring road,' said Speedy, the car's built-in robot chauffeur and journey management system. 'Southbound, right by the power station. The delays are expected to last into this afternoon. I suggest taking the thirty-six, but you'll have to drive manually.'

The driver's door swung open and Billy slithered in and gasped the wheel of the fast saloon.

‘You have control,’ said Speedy and the robot chauffeur threw a transparent image of a map of the surrounding area onto the inside of the windshield. A route was marked in white.

‘Just tell me where to go as we drive,’ instructed Billy. He was anxious to get back to his studio. He was a very successful furniture designer and his work was in demand all across Germany and beyond. At the moment, the 31-year-old was finishing designs for a boardroom table and chairs for a plastics company based near Vienna. Naturally, he was working in that most pliable of materials. Billy touched the ‘engine start’ button on the steering wheel and, as the hydrogen-powered Audi began to move, Speedy faded the map away. Although all traffic on Europe’s highways and major roads was now robot-driven under networked computer control, back street traffic was still driven and managed by humans. As a result accidents and jams were still frequent in the side streets.

‘Turn left two hundred metres ahead,’ said Speedy. ‘There’s some road works coming up that I suggest we avoid.’

‘Sophie’s calling,’ said VA Sophie in his ear. Out of habit Billy reached for the switch on the steering wheel that would have patched his girlfriend’s voice to the in-car sound system. Then he remembered. He nodded and the motion sensor in his ear stud delivered the call via his new system.

‘Hey...’ said Billy.

‘My mother’s been injured,’ shouted real Sophie in a rush, right into his inner ear. ‘She was waterskiing and...’

‘And what?’ shouted Billy back. He saw the right turn coming up.

‘She hit something in the water—and then a jet ski hit her. Her back’s been injured.’

‘How badly?’ asked Billy as he made the turn.

‘She’s in the hospital—they’ll have to operate,’ Sophie said. ‘And you know about her blood. I have to get down to Nice as fast as I can.’

Options raced through Billy’s mind. He and Sophie had been at the wedding in Paris the weekend before and he knew that H el ene and her new husband were honeymooning in the South of France. And he also remembered what Sophie had told him about her mother’s strange blood type; H el ene carried a rare antibody which made normal blood transfusions dangerous for her.

‘I’m on my way home,’ said Billy. ‘One moment.’

He gave instructions to Speedy to check for jams and traffic conditions. Then he told the robot chauffeur to plot the fastest course back to the apartment he and his partner Sophie shared just outside his hometown of Mannheim.

‘I’ll be there in...’

‘Twelve minutes,’ said Speedy, completing the sentence.

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‘For God’s sake, Paul, give it to me!’

Sophie snatched the sweater from the robot’s arms and folded it herself. She knew her bad temper was caused by her worry over her mother, but the slow and careful way Paul the butler-bot was trying to pack incensed her. All domestic robots were programmed to move slowly and handle things gently for reasons of humans’ safety, but there were certain times when such behaviour was inappropriate—and now was one of them. Paul understood the tone of his owner’s voice and he switched himself to safety mode. Sophie Ducasse was a medical student—in her fourth year—at the Universitätsmedizin in Mannheim and she had learned enough medicine to be desperately worried about her mother. She’d been thrilled when her mother told her she was remarrying and although Roger was ten years younger than his bride, Sophie thought her mother’s new relationship had an excellent chance of lasting—and of making her happy. The wedding had been wonderful and, until a few moments ago, Sophie had still been enjoying the afterglow of the pleasurable event. It had been Roger who had called Sophie with the news of her mother’s accident, but it was clear that the doctors at Hôpital Saint-Roch in Nice had either had told him very little about their patient’s injuries or that they knew very few details themselves. Sophie understood that any damage to the spine could result in damage to the spinal column which, in turn, could leave her mother partly or wholly paralysed. Roger hadn’t even known which vertebrae had been damaged in his wife’s back. His new stepdaughter had quickly told him to find out—and she had also told him to relay the important information about her mother’s rare blood antibody. Sophie stood before a mirror and scraped her long, blonde hair back into a utilitarian ponytail. Then she grabbed some toiletries for herself and Billy as she finished packing—Paul standing back, watchful but completely stationary as he always was when switched to safety mode.

It was shortly before noon and Sophie guessed that if they could drive down through France as rapidly as possible they could be in Nice by the early evening. Having grown up in Paris she had frequently spent holidays in the south of France and she was familiar with the air and rail links. She was certain that driving offered the fastest way to get there. But what if the surgeons decided to operate before Sophie arrived? The medical student knew that speed was important in treating back injuries, but she also knew what could happen if her mother was given ordinary blood. Sophie herself also carried the rare blood antibody and, some years ago, she had provided blood for transfusion when her mother had undergone gall-bladder surgery. Ordinary blood transfusions could cause her mother to develop a high fever and could even induce a coma. Mother and daughter often joked that it was good that Mannheim was so close to Paris— ‘We can always give blood to each other if we need it,’ H el ene would say from time to time, when questions of health arose. Now her mother really did need her daughter’s blood, but they were separated by 650 kilometres.

Sophie heard Billy’s ID open the front door lock and she snatched up the large overnight bag she had packed and ran through to the living room.

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‘The scan suggests that three of Madame Guenier’s vertebrae have been damaged,’ said the doctor, as he pointed to an image on a wall screen. ‘Here, here and here.’

‘Do these vertebrae have particular names?’ asked Roger Guenier, remembering his step-daughter’s demand for more precise information.

‘They have letters and numbers,’ explained the doctor. ‘These are vertebrae L2, L3 and L4 – in the lumbar region.’

Roger made a note on his tablet.

‘We can repair the bones, of course,’ added the doctor. ‘The question is whether Madame Guenier’s spinal column has been damaged.’

‘You’ll have to operate?’ asked the anxious husband.

‘Yes, and as soon as possible,’ confirmed the emergency room medic. ‘Our senior orthopaedic surgeon is just finishing a procedure in the operating room. Then he’ll take a look at these scans. I would guess Madame Guenier will be next in for surgery.’

Then Roger Guenier did his best to explain about his wife's rare blood antibody, and the complications that could arise.

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'What are the lane and speed options on the A35?' asked Billy.

VA Sophie and Speedy answered almost together. '150 kilometres and 120 kilometres.'

Now that all autoroute traffic was computer managed, speeds could be a lot faster than in the old days when erratic humans controlled the vehicles.

'How's the traffic south of Strasbourg?' Billy asked.

He was driving manually, his worried girlfriend beside him. He was also breaking local speed limits on the back roads and he knew the networks would be detecting him and automatically issuing fines. But it was clear that this was an emergency. Speedy had estimated that if they could maintain an average speed of 70 kilometres per hour they could be in Nice by early evening.

'Moving well for the first twenty kilometres,' Speedy said, but there's some major road works around Dijon.'

'Route me round them,' instructed Billy.

Sophie's ancient le portable rang – she rarely upgraded her mobile and she still stuck to the old-fashioned French description of such devices. Billy listened as she listened, unable to hear the other side of the conversation.

'OK, I understand,' said Sophie into her handset. She glanced sideways at Billy and mouthed 'Roger.'

'Yes, yes,' continued Sophie, talking to her new stepfather. 'We hope to be there around seven.'

Sophie finished the call, then turned to her partner. He was intent on the road, driving as rapidly as he could through the patchy midday traffic.

'There's a recording of Maman's accident – from the web cams at Pampelonne Beach,' said Sophie. 'Roger's pasted it to our private album.'

Billy nodded, concentrating on weaving through the traffic. He knew that such driving would make him an easy target for the Gendarmerie Nationale, the French traffic police, who loved nothing better than to extract on-the-spot cash fines from foreign motorists.

'Put it up for us,' Billy told his VA Sophie. 'Heads up for me.'

Almost as soon as he finished speaking, his VA pasted two separate displays of high-definition video footage to the windshield – the modern photonic networks threw petabytes of data around the world as effortlessly as if they were old-fashioned text messages. In front of the driver the video images were transparent; on the passenger side they were solid. Sophie and her partner watched as the images from the web cams were replayed. They saw H el ene start her ski run, watched as she turned at the end of the beach and then began her return. Suddenly she seemed to halt in the water, and then fly upwards, into the air. Then the jet ski roared into the cloud of spray.

‘She hit something,’ said Billy, squinting alternately at the video and the road ahead. ‘Something in the water. Replay from just before she hit it.’

VA Sophie started a reply of the video.

‘Freeze,’ ordered Billy. Even while he watched he was still weaving through traffic at almost 100 kph. ‘Zoom in.’

As they gazed at the video frame they could see the outline of something dark in the water ahead of the skier.

‘Zoom in more,’ said Billy.

The dark object appeared to be just below the surface.

‘Looks like a submerged log,’ said VA Sophie.

Billy shook his head and, without taking his eyes off of the road, he reached across and squeezed his girlfriend’s hand.

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‘Of course,’ said Roger Gurnier as the anesthetist went through the interminable questions on her pre-surgery form. ‘We cross-compared our DNA profiles before we married.’

‘Planning a family?’ asked the doctor with a smile.

The recent bridegroom wondered whether the medic had checked her patient’s age; then he remembered that these days many women in their fifties and sixties were still having children with medical help.

Roger shook his head. ‘No. We both have children from previous marriages.’

‘And Madame’s genome profile is where...?’ asked the anesthetist.

‘Here,’ said Roger, and he touched a thin gold bracelet on his left wrist and then moved his hand to the wall screen. The data moved with his fingertips.

‘Right. I’ll just run a drug compatibility trial on her profile,’ said the doctor, touching his screen. ‘Apart from the blood antibody, is there anything else you know to be unusual in your wife’s DNA?’

\* \* \*

‘OK, I have control,’ said Billy as he took back vehicle management from Speedy.

He steered onto the on-ramp of the A6, waited at the smart traffic signal and, when the signal changed, quickly moved into the high speed lane. ‘All yours,’ he told the robot chauffeur as he took his hands from the wheel. The car clicked into the high speed stream of network-controlled traffic. Billy glanced to his right at the drivers who had selected the slower lanes. Most of them, he guessed, were watching the news, talking to someone, gambling, scanning emails, watching videos or simply going over their work. Many of them were ‘attending’ meetings in different time zones, different climates, different seasons: some of them would be involved in more than one. And some would simply be asleep.

When the first fully-automated traffic-flow system had been introduced to European highways, there was much public outcry and intense political debate. Drivers felt uncomfortable handing over control of their vehicles’ movement to computer systems, even if the European Union was providing them with generous tax incentives to assist with the cost of installing the necessary automatic driving systems. It was only when non-automated traffic was completely banned from the fast lanes in peak periods that drivers seriously began adopting Auto-Ride technology. The EU fuelled the experiment by providing an 80 per cent cash subsidy for these in-car control systems and, during the first few years of the experiment, the flow of vehicles was managed by roadside locators and broadcasting systems. Now they were managed by a combination of GPS nodes and satellites, cellular network sensors and roadside beacons and, despite carrying double the number of vehicles per hour than had been possible when vehicles were still driven manually, lane speeds had increased by forty per cent. The public now loved network traffic management and robot-driven cars.

‘What’s your best estimate of our ETA Sophie?’ asked Billy.

‘About seven-thirty,’ said VA Sophie in his ear, just as the real Sophie answered.

‘Around eight.’

‘No, I was talking to Sophie,’ said Billy, touching his ear. He swung his seat round so that he was facing his girlfriend. The Audi continued its journey southwards, at 150 kilometres per hour.

‘You seem very friendly with your virtual assistant,’ said the real Sophie, with something like an accusation in her voice. ‘What’s the new system like?’

‘She understands almost everything I say now,’ said Billy. ‘She gets the semantic context of my words in real time from the networks.’

Then Billy smiled and added, ‘And she seems very real herself, now that she’s in my ear,’

‘Let me hear?’ asked his girlfriend.

‘Patch to speakers,’ said Billy. ‘Now Sophie, tell Sophie about the weather on the way down to Nice.’

‘It’s clear and fine all the way down,’ said the VA over the car’s sound system. ‘Set fine for the next four days.’

‘That’s exactly my voice!’ exclaimed real Sophie. ‘That’s spooky! I don’t think I like it.’

‘I’ve always had your voice,’ said the VA. ‘But my software has been upgraded—for greater naturalism.’

‘But she’s never spoken like that before!’ exclaimed Sophie. She punched Billy on the shoulder, hard enough to make him wince. ‘Aren’t I enough for you?’ she demanded of her boyfriend.

Then Sophie’s old mobile device bleeped. Roger’s name and face appeared on the screen.

‘What news?’ asked the worried daughter into her phone as the car raced southwards.

‘OK, let’s see them,’ she said. She turned to Billy. ‘The doctors are allowing me to look at the scans. Can you put them up?’

Billy nodded and VA Sophie displayed the incoming images on the windshield.

‘Yes, I understand,’ Sophie told Roger. ‘The lumbar region.’

She glanced up at the scans. ‘Can we zoom in?’ she asked.

Billy nodded and his VA enlarged the central area of the image.

Sophie stared at the main scan for some time. ‘Three vertebrae are badly crushed,’ she said quietly. ‘Can I see the 3-D?’

The image on the windshield changed and they were looking at a multidimensional scan that seemed to stretch from the windshield back into the interior of the car. Sophie reached forward and turned the images over slowly with her fingertips.

‘I still can’t see the spinal column itself,’ she complained.

‘I’ll grab my modeler,’ said Billy as he swung his seat further round. Leaning backwards, he pulled a large, thick, white tablet from the rear seat.

‘Transfer the data to this,’ Billy told his VA.

As if by magic, tiny nodes rose from the flat bed of the Dynamic Physical Rendering device and a solid, half-life-size, 3-D model of a human spine appeared to rise up from the bed. Despite the seriousness of the situation, Billy smiled to himself. He loved using the DPR modeler in presentations. He could show his clients physical 3-D renderings of his furniture designs. It was a cool and very useful technology. Sophie took the modeling tablet from Billy’s hands and closely examined the e-sculpture of her mother’s damaged back.

‘They’ll have to fuse these vertebrae, I would think,’ she said half to Billy and half to herself as she ran her fingers over the model of the spine. ‘But I still can’t see if there are any bone fragments in the spinal canal. I don’t suppose they’ll know for sure until they go in.’

‘Péage coming up,’ said VA Sophie as the Audi began to slow for the toll booth.

‘I have control,’ said Billy as he turned his seat forward and took the steering wheel again.

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‘Can’t you wait just a while?’ asked Roger Guenier as the orthopaedic surgeon completed his pre-surgery checks on his patient. ‘Her daughter’s a medical student—she understands these things. She says it will be very dangerous for Hélène to have a blood transfusion.’

‘The longer we wait the greater the chance that your wife could suffer some paralysis, Monsieur,’ said the doctor. ‘I understand about the blood antibody

and we'll do our best to restrict your wife's blood loss. But we must operate now.'

Roger glanced at his watch. It was just after 4 pm. 'Sophie will be here in a few hours. Then you can use her blood—she has the same antibody.'

The surgeon looked at the worried husband and shook his head. 'I'm sorry. We must proceed now.'

\* \* \*

'I don't like her sounding like me!' snapped real-life Sophie. 'Where's it going to end?'

They had been arguing for almost half an hour. Billy understood that his partner was very worried about her mother, but it was his newly upgraded VA that was the target of her anger.

'You've started to talk to her as if she were real—and that's the way she talks back.

'Do you think that's healthy? Sometimes I hardly see you from one day to the next, but now you can talk to her all day long, can't you? You won't need me.'

'I only got the upgrade this morning,' protested Billy. 'I'll give her another voice if you like.'

They were on the A7, speeding south to Aix-en-Provence.

'I suppose you'll give her Julie's voice,' fumed Sophie.

That was a low blow. Julie had been Billy's previous girlfriend. She had dumped him for a rapidly rising tennis player a few months before he had met Sophie—and his current partner always accused him of still being in love with his ex.

'Road works coming up,' announced Speedy. 'It's manual control for the next ten kilometres.'

Reading the emotions of the humans in the car, VA Sophie said nothing.

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'Sophie's on her way,' Roger told his wife. 'Billy's driving her down. She'll be here soon.'

Hélène had been brought gently back to consciousness so the anaesthetist could judge the correct level of sedation to administer for the operation.

Hélène blinked her understanding to Roger. She couldn't move her head or say anything; she was encased in a rigid skeletal protection suit that prevented all movement.

'We'll take her in now,' said the anesthetist, and she nodded for a hospital porter to move the bed.

Roger reached into the cage and touched his wife's hand.

'I love you,' he told her. 'I'll see you later.'

\* \* \*

'I DON'T CARE WHAT YOU DO!' screamed Sophie. 'Once we make sure Maman's OK you can just disappear into the sunset with your damned VA!'

Billy was driving much too fast through the road works, but he was constantly being held up by cars that were slow to pull over, despite his frantically flashing headlights. And Sophie's anger was now boiling over. He knew that she was worried about her mother, but this row was spiraling out of control. Suddenly Billy saw flashing blue lights in his rear view mirror and his heart sank. He had been so engaged with driving—and with arguing—that he hadn't kept an eye on the road behind him. He slowed and pulled over, turned the car engine off and watched as two gendarmes climbed out of their vehicles.

'I'll handle this,' said Billy.

'No let me,' insisted Sophie. 'It's my mother.'

\* \* \*

Although promoted and harmonized across national borders by the Department of the Road Traffic Commissioner of the European Union, the day-to-day operation of the road management networks in member states remained under national control. The two officers of the Gendarmerie Nationale—technically a division of the French military rather than the police—had listened skeptically as Sophie, and then Billy, had explained their reasons for speeding. The officers not only had recordings of speeding offences stretching over a distance of 12 kilometres, they also had images of six other traffic violations Billy had committed as he had weaved his way through the traffic .

'We should confiscate your license immediately,' the older gendarme had warned him.

Then Sophie showed them the DPR model of her mother's spine, pointing out the crushed vertebrae and emphasizing again why only she could provide blood for her mother's transfusions. The reality of the three-dimensional model seemed to change something in both of the officers. The senior gendarme told Billy and Sophie to wait in their vehicle and the pair watched anxiously in the rear view mirror as the policemen discussed the case.

Then Billy saw both officers talking on the networks.

\* \* \*

'Her blood pressure is eighty over thirty. She needs blood,' said the anesthetist. The orthopaedic surgeon raised his head, flipped back the electronic magnifying lenses from his eyes and glanced at the monitors at the head of the operating table. There was still a lot of work to do before he could reveal the spinal column itself. Each fragment of bone had to be carefully removed and accounted for, and there were many small fragments. The jet ski must have been travelling very fast when it cut across his patient's back.

'OK. Give her a half litre,' the surgeon instructed, aware as he did so that he was creating a new problem, one that could seriously damage his patient's prospects for recovery.

\* \* \*

In the holiday season, progress along the coastal A8 autoroute that runs west to east, parallel to the Mediterranean seashore, is exceptionally slow. There are only a few sections on which traffic is guided by networked computer systems and much of the route runs through busy seaside resorts. While making their estimates of the travelling time, VA Sophie and Speedy had allowed for this being the slowest part of the journey—all of the historical traffic data suggested that this stretch of road might take two hours on its own. But now they were speeding along the A8 at over 100 kilometres an hour! They were following the police vehicle that had stopped them outside Aix-en-Provence—and following them with their Audi being driven under computer control.

The gendarmes had checked their story with the accident room at the Hôpital Saint-Roch and, having gained confirmation of Sophie's explanation,

and clearance from their own police control room, they had told the anxious pair that they would escort them all of the way down to the hospital in Nice. On the computer-managed sections of the autoroutes, the gendarmes used their police traffic-management over-ride codes to navigate clear sections of road at up to 180 kph. But here the traffic was dense. Up ahead the flashing blue lights and the klaxons of the police vehicle cleared slower traffic out of the way like a farmer scattering turkeys, and Speedy was locked onto the police vehicle's control system to make sure that Billy's Audi remained precisely two metres behind the police vehicle at all times—as instructed. Here and there the traffic was so bad that the police vehicle and Billy's Audi had to cross into the oncoming lane to steer around stationary traffic. As they approached Antibes, normally the busiest stretch of the A8, Billy pointed to a traffic junction. A local gendarme was holding traffic up until they passed! Then they started to see police holding up traffic at every junction they passed. They were being given the equivalent of a presidential escort to their destination.

'Sixteen kilometres to Nice,' announced VA Sophie, as Speedy concentrated on staying precisely two metres behind the rear bumper of the police car.

\* \* \*

'Her temperature's rising,' said the anesthetist. 'It's almost forty.'

'How's the BP?' asked the surgeon, without raising his head from his patient's back.

'It's improved a little. Eighty-five over forty-two.'

The surgeon straightened up from his patient and a nurse stepped in to wipe his brow. Despite the air-conditioning in the operating room, surgeons always seemed to perspire freely as they worked. It was a symptom of their intense concentration.

'I don't want to give her any more blood,' he instructed the head surgery nurse. 'We'll try and complete without. Continue with the saline.'

The operating room telephone rang. The senior nurse lifted the sterile-wrapped handset.

'Her daughter's arrived,' the nurse told her colleagues. 'They're taking blood from her now. But they'll have to process it.'

The surgeon shook his head. He knew that scanning a blood sample for infections and then sterilizing it would take half-an-hour.

‘Tell them not to bother,’ he ordered. ‘I want it in here now.’

\* \* \*

Billy had been shown into a bare waiting room with four chairs, a table and an old vending machine. As he sat at the table he munched on a chocolate bar he had bought from the battered machine. Neither he nor Sophie had had any lunch, and the only time they had stopped during their high-speed dash southwards had been when they had both needed a toilet break. Like all of the new generation of hydrogen-powered vehicles, Billy’s Audi didn’t need to recharge its hydrogen tanks more than once every 2,000 kilometres.

‘We were lucky with those gendarmes,’ said VA Sophie in his ear. ‘Their escort must have saved us over an hour.’

Billy nodded, then he allowed himself a wry smile; he was getting used to having VA Sophie as his intimate companion.

‘I shouldn’t worry too much about Sophie’s jealousy,’ said VA Sophie, as if she had read his mind. ‘I think it was just that she was worried about her mother.’

Billy nodded again. Then he glanced at an old clock on the wall. It was nearly 10 pm. They had arrived at the hospital three hours before and he hadn’t seen his girlfriend since they had rushed her away to give blood. The nurse who had shown him into this waiting room had explained that the doctors would probably keep Sophie in a bed on stand-by to give more blood for as long as the surgery took.

‘What time did they take Sophie’s mother in for surgery?’ Billy asked.

‘About four,’ said VA Sophie. ‘It can’t be much longer.’

Billy rose and opened a door which led onto a white-painted corridor just as his girlfriend walked around the corner.

‘She’s out of surgery,’ said Sophie in a rush as Billy stepped forward and put his arms around her. ‘She’s OK, but they won’t know for a while if there’s any...’

Billy held his girlfriend away from him by her arms and gazed enquiringly into her face.

‘If there’s any paralysis,’ said Sophie, completing the difficult sentence. Suddenly she put her hand to her forehead and he felt her stagger.

Billy led her gently back into the waiting room and helped her into a chair.

‘They took more than a litre of blood,’ explained Sophie. ‘They wanted me to rest for another hour, but I didn’t have my portable to let you know what was happening. I think I left it in the car.’

Billy knew she didn’t have her old phone with her—he had tried calling her on the device several times.

‘I’ll get you something to eat,’ said Billy as he crossed the room. ‘The café’s shut, so there’s only crisps or chocolate bars.’

\* \* \*

Billy Becker touched his ID to the front door lock of his apartment and pushed the door open. It was Friday evening and the end of a long week. Fourteen days had passed since he and Sophie had undertaken their frantic drive southwards—and he had just received a warm and grateful call of thanks from H  l  ne. The patient was out of hospital—and had taken her first few unaided steps.

‘Sophie?’ called out Billy as he gave his backpack to Paul the butler-bot. ‘Where are you?’

‘She knows you’re coming,’ said the other Sophie in his inner ear. Billy had called ahead when he left the studio.

At that moment the biological Sophie appeared in the kitchen doorway. Her long blonde hair was pinned up, she was dressed in the pink tracksuit she liked to wear around the flat and she was carrying two glasses of champagne. Billy noticed that she too was now wearing some very stylish network spectacles.

‘Great news about Maman,’ she said with a huge smile as she padded across the wooden floor towards Billy. ‘She’s walking!’

Still holding the two glasses, she raised her face up for a kiss. Billy took her face in both hands and kissed her slowly and with increasing diligence. Sophie pulled away with a smile to catch her breath. Then she handed him one of the glasses.

‘Here’s to Maman—and she’s going to call you. To thank you for everything you did.’

‘She already did,’ said Billy, chinking glasses with his girlfriend. ‘She looks and sounds just like her old self.’

They sipped their wine, then Sophie put her head on one side and gazed up at her cool partner. His light-sensitive glasses were also very fashionable.

‘I want you to meet someone, Billy,’ she said, adjusting her new spectacles. ‘I popped into the tech-centre today. I’ve upgraded my system—and my new VA is so much more helpful and intimate than my old system.’

Sophie turned her beautiful face to one side to reveal a small diamond in her ear.

‘Very nice,’ said Billy as he gazed at her ear and the soft skin of her neck. ‘But I can’t see any difference from your old earrings.’

‘You’re not supposed to,’ said virtual Sophie in his inner ear with a tut of annoyance at Billy’s stupidity. ‘Kiss her there.’

Billy did as he was told and biological Sophie’s free arm stole round his neck for another kiss on the lips. He felt her soft body warm against his and he felt a sudden surge of desire.

‘I’ve called my new VA Billy,’ said Sophie stepping back with a smile. ‘Would you like to say hello to him?’

Billy considered for a moment and then smiled. With a nod he instructed VA Sophie to enable inter-VA communication.

‘This is Billy, Billy,’ said real Sophie, speaking via the magic of personal nets, as if she too were now in his head, alongside virtual Sophie.

‘Good to meet you, man,’ said Sophie’s virtual Billy. ‘She’s really been looking forward to you getting home.’

The real Billy burst out laughing. Sophie had not only given her VA the same name as him, she had turned the tables on him by giving the software personality a precise copy of Billy’s own voice.

‘That’s my voice exactly,’ said Billy gazing at Sophie.

‘We sampled a lot of recordings to get that,’ said real Sophie with a laugh, ‘but I think Billy’s already got it down.’

‘I hope you approve?’ asked virtual Billy in real Billy’s inner ear.

Suddenly a petulant voice broke in. ‘Excuse me,’ said virtual Sophie. ‘Aren’t you going to introduce me to Billy?’

With a glance of amusement the two humans simultaneously muted their virtual assistants. Billy stepped forward, took the glass from Sophie’s hand and set it down with his own on a low side table. Then he picked her up in his arms and without saying a word strode purposefully towards their bedroom.

Sensing that the room was now empty of humans, Paul began to carefully clear away the champagne glasses.

### **More information on robotics and intelligent sensors**

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