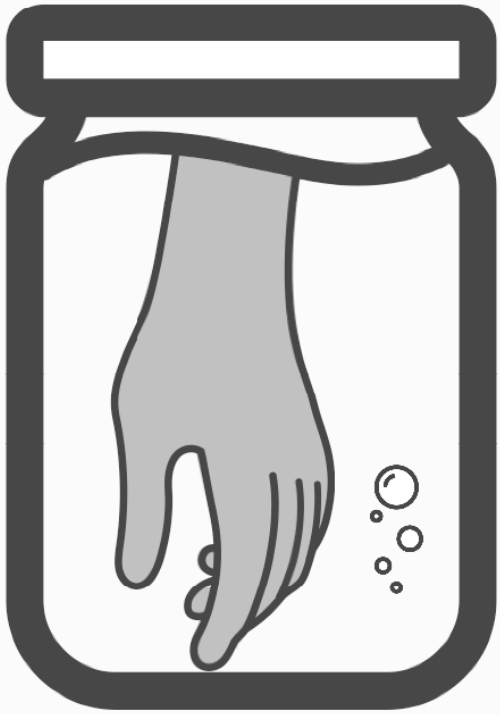

RICKETTSIA TSUTSUGAMUSHI

by Simon Barker

RICKETTSIA tsutsugamushi. This was the scientific name given to the bacterium that caused scrub typhus in humans. Victims were infected by tiny tropical mites known as "chiggers." The symptoms began within days—chills, headache, fever, swollen glands, rash, pulmonary congestion and then death. Up in the jungles of New Guinea typhus was killing servicemen faster than the invading Japanese army, so the war cabinet asked Flin for a vaccine. Flin yanked us off the influenza project and put us to work.

It was exciting, but quite dangerous. On day one Flin mounted a little stool between the lab benches to remind us there were no drugs,

sera or—obviously—vaccines against tsutsugamushi and if we had misgivings he'd transfer us. I had no misgivings. Flin was already an international star and regularly in the newspapers. Working elsewhere offered little attraction.

I'd gone into science with no family background. Dad owned an accountancy firm. Mum occupied herself doing housework and church duties. My two oldest brothers, Harold and John, had studied engineering and were aeroplane fanatics. When war broke they quickly grew moustaches and volunteered. They talked my other brother, Laurence, into volunteering as well, though not into the moustache. Laurence, who'd dreamed of acting, had ended up in the family business. As it turned out only Laurence was taken because Manpower considered engineering vital to the war and not until Pearl Harbour were Harold and John released for combat in New Guinea. I would have loved to learn flying, but my brothers refused to teach me on the grounds of my tallness. Anyway, regardless of all that, science was my thing. It was what I loved doing.

The typhus work started just after I'd become engaged. Malcolm, my fiancé, was a school friend of my two older brothers. I'd been used to spotting him about our parents' house since I was a girl. Out of the blue he proposed, almost as if on a dare. I'd always considered him handsome, too

handsome for someone tall and freckled like me. But there it was in the Family Notices, our engagement. Flin had promised me three days honeymoon, deeming himself generous.

In order to create a typhus vaccine we incubated the R. tsutsugamushi bacterium in chicken eggs and inoculated experimental mice. Mice can be tetchy and I teased the others when they made them struggle and bite. Flin picked me because I was the best with animals and had the steadiest hands, which only made what happened more unfortunate.

It occurred one day before lunch. Malcolm had come to the lab so we could rush across Royal Parade to the courts at his old university college where I could beat him at tennis. Like my elder brothers he'd enlisted following Pearl Harbour. Fortunately instead of an overseas posting he'd been assigned a desk job in Parkville ten minutes away. I felt slightly tense because lab visitors weren't permitted although his Air Force uniform looked official. I had a cage of mice to inject before we snuck off. When I picked up the first mouse and turned for the syringe Malcolm had begun toying with it in spite of my previous warning.

I must have yelled at him. He jerked and I saw the syringe go flying. Lab ware was all made of glass and I instinctively tried to save it. My right hand shot out like a wicket keeper's, half catching it, but not quite. The

syringe rebounded over my head—as if I was juggling—and I threw out my other hand. My ankle twisted on the floor, which had been waxed pointlessly by the hospital cleaners, I felt a shooting pain and ended on my bottom. After this little performance the entire lab crowded round to look. There was the mouse miraculously impaled by the syringe like an insect in a museum cabinet, except squealing and biting. The real problem, however, was the hypodermic needle had passed through the animal—which I still held—and into me.

My friend Dora pounced and freed the mouse, which escaped, trailing blood. Before Malcolm could object Dora pulled off his cravat and tugged up my coat sleeve. Simultaneously she yelled for Flin. She got the cravat around my arm, tightened it and cursed its slippery silk. She kept furiously knotting it until Frank brought a proper tourniquet.

The others were frantically hunting up Flin, but he'd just left the building to meet the health minister. Frank raised a window and called down to Royal Parade where Flin was stepping into a tram. My fiancé, assuming I only had a flesh wound, knelt and put his arm around me.

"She had a needle stab," Dora announced when Flin reappeared.

"With the culture?"

"Yes."

"How far in?"

Dora held my palm open. The mouse had had a good old chew.

"How did this happen?"

"She slipped on the blasted floor," Dora said, keeping mum about Malcolm.

Flin held his breath with that chilled, intense look I'd seen him exhibit under stress then announced, "It has to come off."

"What?" Malcolm asked. I felt his arm clench.

"It has to come off," Flin reiterated. "We have to amputate."

My fiancé looked at me and I saw his large hazel eyes, which I'd always adored, roll back into his head as he fainted.

"Bloody hell," Flin said. It was the first I'd ever heard Flin swear. "Elevate his feet."

We'd disposed of the old canvas stretcher on the wall to make space. I said I could walk, forgetting my ankle. Flin improvised a seat by grasping Frank's hands while Dora supported from behind. As unathletic as he was Flin ran in this posture—the wind actually blew my hair—down the

corridor to the hospital doorway. The entire lab had followed, abandoning my unconscious fiancé on the waxed floor.

Like Alice in Wonderland we rushed through into the other world of the hospital. Medical staff were hurrying past patients and their relatives. The air smelled of hot meals, instead of mice. As we dashed to theatres Flin bellowed for Prof Bishop and got alarmed looks. Prof was scrubbing up for another operation. We barged through doors. Finally I was released on a table. A theatre sister unbuttoned my lab coat. Prof appeared and Flin started explaining. At one point he slapped his forehead. A gas cylinder was trolleyed in. A mask was pressed to my face. Cold iodine solution painted on my bare skin. At the last moment I remembered my engagement ring and started tugging. I could never get the silly thing off. Then I was out.

After that, apparently, there was a bit of a circus. My unsteady fiancé was wheelchaired in. Prof Bishop went looking for the puncture with a magnifying glass. Flin told him it was pointless and they decided amputation at the shoulder would be the safest bet. When they put this to my fiancé he went green. Flin insisted that if the infection spread I was done for and death from typhus was a very unpleasant thing, he'd seen it. But that was mutilation, Malcolm protested. Even groggy he argued so

much Flin uncharacteristically compromised and my fiancé was packed off home to recuperate.

I missed all this, of course. Woke alone in a hospital cot, my mind a blank. Gazing about I spotted an army poster taped to the hospital wall.

"HE'S COMING SOUTH," the poster announced.

Below was a vast red sun rising over the globe. In front a giant Japanese soldier strode across the Indonesian archipelago, his gun pointed and his boot poised above Australia.

"It's fight, work or perish," the poster warned in lower case.

Now I remembered—we were at war, my brothers were in New Guinea, there was the vaccine project, my engagement, the accident. That's right, I thought, they were going to amputate.

But, no, that couldn't be, because I felt both hands. I twiddled my fingers. I even picked out a bar from Ravel's concerto for the left hand. Still, when I looked, nothing emerged from the linen dressing at my wrist. My hand was gone.

Flin was my first visitor. The poor unhappy soul sat by my bed as if in church attending a funeral, neither of us knowing how to begin. I suppose he felt pretty dreadful. I certainly did. I was so upset and sorry

for myself and also guilty because as well as losing part of my arm, which was terrible enough, I'd lost it stupidly disobeying the rules. Now I'd threatened the project's future. This wasn't at all how I saw myself. I was supposed to be a person who did things properly and got things right. What could I say?

"Bugger," apparently.

I think Flin was shocked when he heard me say that because he suddenly launched into a string of explanations for why what had been done had to be done—how very virulent the disease was, how many patients he'd seen die, how much he valued me and didn't want to lose me, the responsibility he bore to my fiancé and my family and the hospital and the government—all things I knew full well, but he seemed compelled to go over them again. I let him continue because somehow it made both of us feel better. When he ran out of explanations he shook his head and sat silent again.

"Bugger," he said eventually, and without being able to help myself I laughed. Then I had a little cry and finally blew my nose on the hem of the bed sheet since I had no handkerchief with me. Once that was over I regained my composure.

Flin stayed for an hour. The initial awkwardness wore off and we both opened up to each other. He asked if I was in pain. He checked my twisted ankle. I described my phantom limb, which interested him. We even got onto the topic of work since we'd been writing an influenza paper together for *The Lancet*.

When the time came to go, Flin said he'd let my fiancé know I was receiving visitors. I recollected the fainting fit and asked if Malcolm had recovered. Flin thought so. Then he remembered and handed me my engagement ring. I examined it. The ring had been my grandma's and I felt responsible for its safekeeping. Flin added that, in case I was worrying, he considered things would be fine in spite of what had happened since he felt sure my fiancé was a decent chap. That's strange, I thought. Why would I be worrying my fiancé wasn't a decent chap? I made no comment. Once Flin had gone I tried slipping the ring onto my right hand using my teeth. But my right hand fingers must have been fatter than my left.

Mum and Dad came as soon as allowed. Dad looked extremely grave, asked repeatedly if I was in pain (I wasn't) and sat below the window smoking his pipe while reading in the newspaper of the Japanese bombing of northern Australia. Mum briefly wept into a starched handkerchief she clutched with her gloved hand. Three sons at war, now this.

"Such a dreadfully unfortunate thing to befall a young lady on the verge of marriage," she told me. Mum spoke that way. I don't think she meant to sound harsh but her manner gave the impression the accident reflected badly on me, like a moral failing.

Fortunately, to balance Mum I had my brother, Laurence, whom the Air Force had recently posted to Queensland. After a twenty-seven hour train journey he appeared bearing a pineapple and a harmonica. He perched on my mattress and played *Chattanooga Choo Choo*. Just the instrument for a one handed musician, he urged, presenting it to me as a gift. Laurence was wonderful. He'd spent two years in a Middle East bomber squadron. Half the other enlistees were already dead or maimed so one missing hand wasn't such a big deal, I gathered. He asked whether I'd heard the expression, "As busy as a one armed taxi driver with crabs"? I certainly hadn't. And I naïvely pictured a cab full of crustacea.

Unfortunately the person I saw most in hospital was Sister Paine—a starched ogress who barely came up to my bust. From Sister Paine I learned I was selfishly depriving someone more deserving of a hospital bed, such as a wounded serviceman.

Consequently I was keen to check out. But on the evening before I felt a sudden chilliness. My fault again, according to Sister Paine—sneaking out

of bed, contrary to rules. I hadn't sneaked. Still my temperature went up and up. My discharge was cancelled. My eyes reddened. I developed a headache and pains in the arms and legs—even in my phantom hand. My glands swelled. I felt lousy. Then came a rash, spreading from my trunk. Blood was tested. The results came. I had typhus, the deadly laboratory strain of typhus. Amputation hadn't worked.

Bugger.

All jesting about harmonicas and taxis ceased because, it was agreed, I was doomed. My fiancé limply held my remaining hand. He found the missing one unnerving and tried to ignore its absence. Although he kept his chin up we slipped into speaking of our marriage as if it would never be. Flin must have taken the opportunity to inform the press because a chain-smoking newspaper reporter and photographer appeared wearing white gowns and masks. Our picture was printed in the morning edition, the giant Japanese soldier out of focus between us. The health minister dropped in. My picture appeared again, feebly shaking his hand. I didn't look long for this world. Information leaked out that my amputated hand had been preserved to assist vaccine development for the troops fighting in the Pacific, which was complete bosh.

As I sank lower and lower my parents kept a bedside vigil, Mum doggedly embroidering while Dad read about the Pacific campaign and I slipped in and out of delirium. I was given oxygen and barbiturates. I could barely swallow what was spooned into me. Laurence sneaked back to Melbourne, probably AWOL. He learned about the operating theatre dispute and argued with my fiancé. There was another argument with my parents whom he accused of doing too little. Everything seemed to be going wrong.

The only bright spot was my liberation from Sister Paine. I was shifted to intensive care. *Well,* I thought, *at least I'd be dying Paine-lessly*. I wondered whether the typhus-ridden servicemen in the New Guinea jungles could be worse off than Sister P's patients. The giant Japanese warrior's image appeared and I thought not. In the peculiar way of delirious people I started an inventory of my life and felt astonished so much lay undone—my marriage, the vaccine, the *Lancet* article, learning to fly an aeroplane. I burst into uncontrollable apologies: to Flin for impaling the poor mouse, to my family for my funeral expenses, to my fiancé for widowing him. During my worst week Mum asked whether I wanted the church minister. At last that steadied me. I'd endured more than enough religion at school.

In the end I joined the lucky minority. After days of drowning in sweat, my fever abruptly subsided leaving only mild myocarditis. Laurence threw a party. My family plus the entire lab crammed into my hospital room. Dora baked a sponge cake from pooled rations. My parents turned a blind eye when my fiancé poured me rum. Laurence fetched one of the invasion posters and drew a party hat on the Japanese warrior. Prof Bishop called by and rum was poured for him. Only at the close of the celebrations did Laurence reveal that, like our brothers before him, he was posted to New Guinea because of the invasion scare.

"That means," he told my fiancé, "our favourite sister's in your care."

"Not so fast," Malcolm interjected. "They've posted me too." He held up a telegram, like Neville Chamberlain. Maybe he'd shown me during my delirium. I could not recall.

After my discharge Mum engaged a housekeeper and I convalesced. I could neither knit nor embroider single-handed. I soon exhausted my parents' meagre library. I was reduced to reading Sir Walter Scott's poetical works and the life of Madame Curie—and the other school prizes gathering dust on my bedroom shelf—until Flin brought our *Lancet* manuscript.

That was how I spent the remainder of 1943. Cheery letters arrived from Laurence's jungle outpost with highly censored news and his hand drawn cartoons of our brothers and him climbing coconut palms and wearing grass skirts. My fiancé was dispatched to Washington, D.C. where regulations limited his correspondence to a trickle. A few times the chain-smoking newspaper reporter popped up and, as Mum put it, fed like a locust on our rationed provisions. I tried Laurence's harmonica, unsuccessfully. My ankle recovered and following my great aunt's instruction, I mastered single-handed knitting.

All the while Flin preserved my lab bench, though he did recruit a new researcher named Anne to do the injections and the typhus project forged ahead. I was kept up-to-date until, after great technical feats, a vaccine materialised. Flin orchestrated fanfare in the press. Unfortunately, it emerged that vaccination against one R. tsutsugamushi strain, even my deadly one, wasn't protection against others and there were a lot of other strains. So nature thoroughly outwitted us. And in place of our vaccine, the new insecticide DDT became available to wipe out the chiggers transmitting the disease. Laurence drew me cartoons of servicemen having DDT dust sprinkled down their trousers and in their hair. Eventually Florey would produce penicillin and that provided a cure.

My strength returned and I grew impatient for marriage, to see what it would be like. I told my parents I was writing to my fiancé to say whenever he got leave I'd be ready. Having lost weight in hospital—and I don't just mean my hand—I was a bit of a stick—I set about fattening myself. For weeks I heard nothing and assumed trans-Pacific correspondence was blocked until an envelope appeared, special delivery. "Open it," Mum urged. The letter was typed. I read at the kitchen table and wished I'd taken it elsewhere. Instead of our wedding date, it contained news of another sort. My fiancé would not be coming home. The unexpected had happened.

Initially I thought this must refer to some secret mission and the Air Force had removed what my fiancé had written about it and retyped his letter because at this point it broke off and began relating how, since his posting to the US, he'd become acquainted with one of the Pentagon secretaries. There were details of how he'd met this lady, who she was and where she came from, none of which seemed pertinent. I read to the final page still not understanding until suddenly the blow landed. My fiancé was ending our engagement because—for reasons it did not become him as an officer and a gentleman (he used the very phrase) to spell out—it was necessary he marry this American lady.

"What's the word from dear old Malcolm?" Mum asked when I let the letter drop to the kitchen table.

I could barely speak. I muttered and retreated to my room. As I lay on my bed staring at the rhododendrons outside I thought the true reason this had come to pass, regardless of what I'd just read in the letter, was my hand. Malcolm couldn't bring himself to marry me because of my stupid hand. Flin's words echoed—about being a decent chap. I felt sick at heart. If only I'd been more careful.

Mum summoned me to dinner. She'd prepared lamb's fry and bacon to help my weight. She didn't ask again about the letter although I'd left it where she or Dad could read it. They must have come to conclusions because they were both uncomfortable. Halfway through I couldn't stand it anymore. I announced, self-consciously, "I'd like you to know I won't be getting married. Malcolm has decided to marry an American woman instead of me."

Dad paused his fork halfway, a portion of liver speared to its prongs. Both my parents stared. "I don't want to say any more," I told them. "You can read his letter, if you like. I've left it on the sideboard." I wanted to cry, but I wouldn't allow myself. Eventually Dad transferred the piece of liver to his mouth and slowly chewed.

After dinner Mum knocked gently at my bedroom. "Perhaps it wasn't God's will that you two marry," she said.

That was the last straw. "Mum, what's the point in telling an unbeliever that?" She looked mortified. I thought best to apologise. Nothing more was said, only I agreed I'd write to my brothers.

"Don't fret," Laurence responded. "Malcolm will make a lovely wife. Thank God he's not in the war."

Well, so much for marriage, I told myself once I'd tired of self-pity. I prepared for more work. By the time I returned to the lab Flin had well and truly abandoned the typhus vaccine and resumed influenza research. He and many others were expecting peace would bring a flu pandemic to rival the one that exterminated thirty million people following the Great War. With this in mind we grew enormous quantities of flu virus in chicken eggs. My hand was still steady but several times a day I'd find myself forgetting I had only the one left. At least I'd retained both arms, which was the sole good from my ex-fiancé's tantrum in the operating theatre.

A year later, the Pacific war ended. By tremendous good fortune my three brothers survived more or less unharmed, making me the sole wounded member of the family. Laurence was shot down in the battle of

the Bismarck Sea but rescued by Papuan fishermen. John and Harold were repatriated to Melbourne, suffering from malaria. They opened an airfreight business. To Dad's disappointment, Laurence—rather than return to the family firm—used his back pay to purchase a New Guinea plantation where he began living among servants and houseboys and started calling himself Larry.

My ex-fiancé, who hadn't faced a lot of enemy fire in Washington, D.C., arrived home in excellent health and with an American accent—something he never outgrew—but without an American spouse. Whether from an officer's or a gentleman's point of view the Washington, D.C. marriage had proved avoidable. He was one of those officers of whom it was said they'd "had a good war." In fact he re-enlisted, ultimately rising to Air Vice Marshal or some such rank. My older brothers remained on friendly terms. When he became engaged a third time, to a Melbourne socialite, a biscuit heiress, my brothers attended the wedding in their old service uniforms. I went to the pictures with Dora instead. So that was that.

During 1947 I was still in the lab working when Flin received a letter from a young refugee scientist who'd escaped to London—Flin's reputation had spread everywhere by that stage. Six months after his

arrival in Flin's lab, the pair of us were married in a civil ceremony. We took our three days honeymoon as allotted by Flin—in any case I was furiously finishing my dissertation. After I'd submitted, Flin organised a celebratory dinner at the Windsor Hotel during which my parents, who were a bit overwhelmed but also extremely proud—our family had never boasted of a "Doctor"—were almost induced to drink some of the champagne that, later in the evening, I calculated, caused me to fumble my precautions and fall pregnant. After one missed cycle I brought my test results to the lab to inform Flin. Before I could open my mouth he started congratulating me. He'd heard I'd been awarded my doctorate, in record time. You have an outstanding career ahead of you, was what he told me. When I got to deliver my own news he congratulated me again and reaffirmed I had an outstanding career ahead of me, as a mother. Before I knew it I was being farewelled at morning tea, my bench cleared and my part of the influenza project handed over to Anne.

As motherhood bore down on me I approached it like lab work, keeping inventories, formulating protocols for mundane chores, assessing the results of my labour. I tried to be scientific.

During my second pregnancy I began planning my return to the lab. But before that could happen Flin and my husband had a falling out and

my husband took up an appointment in Canberra. I began my homemaking for the second time in a new city. The move was a success. The Cold War had broken out and government money poured into research. Science was booming. My husband secured a professorship and was regularly invited to overseas conferences, though never in his native Hungary. Even more impressively Flin managed to win himself a Nobel Prize. He became a big celebrity and published his autobiography. My husband rated a brief mention, which was pretty decent given the circumstances. I did not.

After our third daughter, my damaged heart began to bother me. I was advised to take it easy. My husband, however, had become restless and after he fell into dispute with his new department we relocated to Sydney, where I began my home making all over again. I was still trying to keep up to date with developments in my field, assuming I'd return to the lab some day, since that was my calling. Nothing had shaken my belief that I had a brain for science. But for one reason or another my career never resumed and in due course it dawned on me that it was over. By now I was too old. My own fault really. I'd let the opportunity slip.

Then just yesterday, a Melbourne parcel arrived by post. I was at the vet with the family tomcat who'd come out second best in another

skirmish. As Christmas was close, our middle daughter, Gudrun, got it into her head that Grandma had sent gifts. In fact the parcel had come from the pathology department at Melbourne Hospital, which was relocating to smaller premises and dispersing its old collection. Inside layers of padding the girls discovered a sealed container with my embalmed hand.

Puss and I arrived home to find the specimen jar on the kitchen table. Our oldest daughter, Dora, was in shock. It was no use scolding Gudrun since she felt equally upset. I couldn't get any sense out of them. Only our youngest daughter, Adelheid, was able to explain.

"Gudie said it couldn't be your hand, but I knew it was yours because it's a left one and it had mouse bites!"

I hid it in the storeroom. In the evening Adelheid alone finished her dinner. To take the girls' minds of the shock of the embalmed hand I let them all stay up to watch *The Forsyte Saga*, though Adelheid kept interrupting for help with her embroidery. She'd insisted on copying one of Mum's old samplers, which was far too difficult for an eleven year old. Gudrun eventually went to bed without fuss. Dora felt so anxious she couldn't sleep until after midnight. She woke at 2 a.m. and I sat with her. Then I couldn't sleep myself. My husband was in Tokyo visiting his Japanese collaborators. I lay in the darkness thinking how to dispose of

the hand. The possibility we'd soon have a deceased tomcat made me briefly consider burying them both in the garden. What a nuisance. My husband would have to take it to his lab's biological waste incinerator when he returned.

Thinking over the way my daughters had reacted brought to mind my ex-fiancé's fainting fit in Flin's old lab. In the years since my accident I'd never given that matter much consideration. But now, partly to fill the time since I wasn't going back to sleep, I started jotting these notes. And having come to the end I find myself asking a question that hadn't previously occurred to me: What would I have decided, if things had been left up to me? Would I have decided, like Flin, to have them amputate my arm at the shoulder? Would I have chosen a half measure like my fiancé? Would I have simply taken a gamble and done nothing? Of course, at the time, it hadn't been up to me. It had been entirely up to Flin and my then fiancé and the surgeon. They'd decided what was best. I'd had no part. But what would I have done?

I know the answer without even having to reflect. I would have taken the gamble. I have no doubt.

ABOUT THE AUTHOR

Simon Barker is an Australian living in Sydney although for a number of years he lived in the Bay Area of California. His stories have appeared in *New Ohio Review, Water~Stone Review, SmokeLong Quarterly* and some other publications. A companion piece to *Rickettsia tsutsugamushi*, about the earlier life of the narrator's husband, was published in decomP.

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