

Sample

TIME BOMBER

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This is a work of fiction based on the life and writings of Dr. Willem Jacob van Stockum. Words and sentiments expressed by Dr. van Stockum and other historical figures in the work are based on the author's interpretation of historical documents but unless otherwise indicated are not the express sentiments or words of such figures. The names of other real life characters have been changed.

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Preface

Although *Time Bomber* is a work of fiction, its central character, Willem Jacob van Stockum, is very much a real person. Dr. van Stockum was born on November 20th, 1910, in the village of Hattem, Holland. He trained as a mathematician and conducted post-doctoral research at the Institute of Advanced Studies at Princeton University, where he worked with Dr. Oswald Veblen and in the company of Einstein, von Neumann, and Bohr. He accepted a faculty position at the University of Maryland in the Mathematics Department under Tobias Dantzig in the fall of 1940. In the summer of 1941, he left Maryland and joined the Canadian Air Force to train as a bomber pilot. He subsequently transferred to the Dutch unit of the British RAF and flew a Handley-Page Halifax bomber. He flew missions in support of the Allied invasion of Normandy. Dr. van Stockum's writings about his World War II service served as the basis for the historical portions of the story told herein.

His doctoral thesis in Mathematics from Edinburgh University is titled "The gravitational field of a distribution of particles rotating around an axis of symmetry", and demonstrates that Einstein's theory of General Relativity allows for the creation of closed time-like curves.

I discovered Dr. van Stockum during reading about time travel, and I know him primarily as he is described in those

resources as one of the Fathers of Time Travel. (Those resources include Clegg, Brian. *How to Build a Time Machine: The Real Science of Time Travel*. St. Martin's Press, 2011 and other works listed under "Time Travel and Physics" in the *Further Reading* section of this book.) Everything I've learned about him since, I see through the filter of his career in mathematics, his prodigious intellectual achievements and his legacy in the world of mathematics and physics. If Willem's work is correct, then time travel is possible. *Time Bomber* is a story exploring that possibility by tying it to the actual events of Dr. van Stockum's life. I hope that through this story I'm able to instill in the reader the same sense of awe and wonder I feel from the implications of his work and personal sacrifice.

Robert P. Wack
February 2014

"One of the endlessly alluring aspects of mathematics is that its thorniest paradoxes have a way of blooming into beautiful theories." - Philip J. Davis

"Pure mathematics is, in its way, the poetry of logical ideas."
- Albert Einstein

"Life is like a game of cards. The hand you are dealt is determinism; the way you play it is free will." - Jawaharlal Nehru

Prologue

The reticle of the Ziess Zielvier scope centered on the boy's cheek, precisely quartering the fear and fatigue covering his dirty, sweat-streaked face. A gentle squeeze of the trigger would deliver instant peace. Not your time, the soldier thought, looking up at the gray sky and lowering his rifle. Not this bullet.

Above and behind him, the flowering apple tree glowed in the sidelong morning light, creating a pink nimbus against the sooty sky.

He inhaled deeply, savoring the fragrance of the blossoms, at peace despite the impending violence of his mission. This is a place I could stay. Finish my time.

The blooming trees whispered in the soft breeze, blending blossom sweetness and musty, warming earthiness from the farms and fields in the surrounding French countryside. From his concealment beneath the pile of winter prunings, he had a clear view down a lane of fruit trees toward the knot of bedraggled paratroopers huddled against the raised mound of the surrounding hedgerow.

He raised the Kar98k rifle and peered through the scope again, scanning the cluster of young soldiers, searching for his quarry. The paratroopers edged forward along the hedge line, alert for German opposition. The soldier scoped each one, dismissing each in turn. Assured of his target's absence, he

lowered the rifle again. The pilot was not with them, and these paratroopers, lost far behind the lines, would find their own way, without his intervention. This time.

Another place, another time: he sat in civilian clothes at a café in Carentan, sipping weak coffee, the best to be obtained during the German occupation. Despite the quiet streets, the air was electric, the news of the invasion sending residents scurrying about, a *frisson* of hope and fear exciting near hysteria. He spied his quarry leaving the shop across the street, also posing as a civilian. He turned to his newspaper as the other passed, oblivious. He would not fail this time. Though the technicians said it was impossible, he knew the pain he felt from their last several encounters was real and fresh, sending him back to try again, and again.

After a few seconds, he finished his coffee, folded the paper, stood up, and started down the street, following the target. The man was half a block ahead, hurrying, head down. The soldier approached from behind, drew his knife, stepped forward and struck cleanly. The target crumpled and the soldier pulled him into a small alley and concealed the body behind a pile of debris. He cleaned the knife and continued on his way, undetected.

Another place, another time: wearing the baggy uniform of an American paratrooper, he picked his way across the Normandy countryside in the company of a small group of paratroopers trying to regroup, find other members of their scattered unit. He suspected his target was in the area, but wasn't sure what approach he would use this time. The soldier preferred the American uniform to the scratchy wool of the German infantry, especially since his own outfit didn't have the same chemical impregnation as the other paratroopers had – which, as he knew, was an unnecessary precaution against the Germans using chemical weapons.

Time Bomber

The paratroopers found the wreckage of a Halifax bomber, and he explored the remains with them, feigning disinterest. Amongst the dead lay the pilot, easily recognized. He made a note of the coordinates, and, at the next available opportunity, separated from the group and returned to his operational locus to prepare for his next deployment. Back to do it again, and again, until he could go home and live a quiet civilian life. Or just go back, really, because there really was no going home. That was still true, even now.

CHAPTER ONE

0020 June 6th, 1944

*Bomber Squadron 10, RAF Station Melbourne
Yorkshire, England*

“Go home, van Stockum. The paratroopers have to do their work now.”

Flight Officer Willem Jacob van Stockum looked up with a weary smile from the terrain map in front of him, relieved to hear Wing Commander Sheffield’s voice. “Good to see you back safely, Sir. How was the new crew?”

“Top notch. Fine group of lads. They just needed a little steadying.” Sheffield looked down at the materials arrayed on the table in front of Willem. “What are you into now?”

“Just a little more preparation, Sir.”

Sheffield smiled and picked up a small book. “Dickens? Ah, *Dombey*. You certainly have diverse interests. I heard you were reciting Yeats to the men the other day.”

Willem blushed. “They’re a sharp bunch, with very refined tastes.”

Sheffield chuckled and turned the book over in his hands. “I never got to this one. Didn’t fancy any of them, really. Too many lucky coincidences.”

Willem grinned. "His characters amuse me. There's a little bit of truth in all of them."

"Indeed. Now, Yeats, there's a poet. Any favorites?"

"*The Wanderings of Oisin*," Willem responded without hesitation.

Sheffield nodded, eyes sparkling over a warm smile. "We'll have to discuss it some time. How were your runs today?"

"Excellent. Two against the coastal batteries, and one up to Le Havre. I think we did some real damage."

"Yes, I heard about your little maneuver over Ver sur Mer."

Willem warmed again. "Just making sure Jerry gets his mail."

Sheffield grinned. "Very good. Let's see who's still out."

Who was back? Dennie and his crew, that was certain. Though Willem did not see his friend when he landed, the status board listed his Halifax bomber as back in one piece, just one of the thirty planes of Squadron No.10 out for one more run at the end of their busiest day ever: the final run-up to the long awaited invasion of Fortress Europe.

Sheffield conferred with the prim WAAF clerk, mulling over the five remaining empty squares on the mission tracking board. Willem returned to his papers, picked up the completed letter to his mother and sealed it, then put it to the side. He hoped his cryptic allusions would be vague enough to get through the censors, and that she would note the date and make the connection to this evening's events.

What a long journey it had been. From his childhood in the Netherlands, then Dublin, to America, and now here, to the storied Squadron No.10 in Yorkshire, one of the cradles of the bombing campaign against Germany, the home of the legendary "King Kong" Staton, one of the earliest proponents of a particularly reckless style of flying, devised to ensure that the bombs hit the target and only the target.

Up on the wall of the officer's mess hung a photo of Staton with his labrador Sam. His towering frame befitted his nickname. Alongside were the mementos and commemorations of the crews from before, a small fraction of those killed and missing.

Willem returned to his maps, the other letter spread out next to it. He stared at the spidery handwriting on the pages received today and shook his head at the contrast between the two. On one piece of paper he planned his future; on the others, how to ensure that as many Nazis as possible had none at all.

He sipped the weak coffee and thought of home. Though a faint imitation of a proper brew, it was still better than tea, which he still wasn't used to after so many years with the Canadians and Brits. He didn't mind tea, but he preferred a good dark coffee like his mother used to make for *koffietijd* – his Irish/Dutch mother, making good Dutch coffee no matter where in the world she might be. He smiled to himself, noting the similarities between her wanderings and his. Did she know she'd end up in Washington D.C. when she left Holland for the Dutch West Indies with Captain Bram van Stockum so many years ago, their baby daughter in her arms? On both sides of his family the adventure gene ran true. In only one generation, his cousins had scattered across four continents. With that familial penchant for boldness, his peripatetic career path made better sense.

At the front of the room, the pretty clerk stole glances at Willem as she neatly printed the results of each of the evening's missions. He studied the board, oblivious to her attempts to catch his eye. Only four out now. How long before they were deleted from the list? He used to feel guilty at the relief he felt when it was none of his friends. But that lessened with each time out – or, at least, he noticed it less.

The second run of the day had been the best. Though he had quickly learned to keep his opinions to himself, the other crews couldn't help but notice his exhilaration at being given the more challenging runs against the coastal batteries, which were sure to be heavily defended. He didn't want any more antagonism about his Crazy Yank ways, but he never ducked an opportunity to defend his tactics. Why drop bombs on targets where you didn't know for sure you were killing Germans? At least where there was anti-aircraft fire you knew two things: there were German soldiers down there, and they didn't want you dropping bombs on that particular spot. That meant raining destruction on it was imperative. Not like the night over Duisberg.

In his first few months with the squadron, he hadn't faced the problem of what he'd do if given an assignment to drop bombs on a German city. The gradual evolution of bombing tactics over the last few years put him in the awkward position of arguing vehemently against the very methods his superiors were now forcefully pursuing: the deliberate destruction of German population centers and the deaths of civilian non-combatants. It was a moral dilemma he hadn't foreseen three years ago at the University of Maryland.

Four weeks before, they'd flown to Duisberg to hit the Messerschmidt airframe assembly plant. Willem's plane was in the third wave, and, as they approached the target, the whole town was ablaze. They released their load, but Willem was transfixed by the hellish spectacle below, fiery blobs and tentacles shrouded in smoke, consuming everything. When Colin Morrison, the tail gunner, screamed into the intercom, Willem was slow to react.

"Corkscrew left! Now!" A German fighter had a bead on them, and as usual, Colin was the first to spot it. They narrowly escaped, but several others didn't.

That night held several lessons for Willem, who still desperately absorbed everything he could from a combat experience while also trying to keep his crew alive. First, light flak over a target meant safe skies for the German fighters too, and they'd likely be there in force. Next, being in the third wave meant that because of the markers and fires you could see the target better; but it also meant the fighters were probably already on station waiting for you. Worst of all, the scruples of only targeting military sites and avoiding civilians were almost meaningless in the darkness, confusion, and terror of a live mission under fire.

"Pack it in, van Stockum. I'll see the rest of them in. You need to be fresh for tomorrow," Sheffield ordered.

Willem pointed at the board. "Isn't that Mickey's plane?"

Sheffield nodded. "He took one of the other new crews out for me, rode second dickey. They were with the bunch headed to Essen. Diversionary raid."

Mickey Mitchell was a perfect choice to send out with a plane full of nervous "sproggs" on their first mission. He was one of the senior Canadian pilots in the Squadron, well respected for his flying skill, and even more so for his capacity for alcohol and his deep baritone. In the pubs, a few rounds of pints usually broke down the silent walls between the crews of various nationalities. Willem really enjoyed the internationalism of Squadron No. 10. French, Norwegian, Dutch and Belgian flyers joined the Australians, Canadians, and Brits to share equally in danger and death. Willem knew Mickey from all the way back to Rockcliffe, the training station outside Ottawa they'd both been posted to early on. Meeting up with him again in Yorkshire was an unexpected pleasure.

Willem picked up the day's letters and shuffled the pages again, putting them in order to reread one more time.

“I share your ambivalence about the use of violence to protect the innocent. Events in our homelands have persuaded me that there are circumstances when we must set aside our qualms and do what is necessary. In a way, I envy your clarity of purpose in that regard. For myself, my disgust for all things military does not diminish my respect for your course of action.”

All the doubts of the last few years were assuaged by those sentences. Did he do the right thing back in 1941, when he chucked it all to join the Canadian Air Force? Although his teaching position in the Mathematics Department at Maryland was never going to be permanent, staying there had become harder every day through the winter of 1940 with each bulletin from his ravaged homeland. Willem was torn between his mathematics and his desire to do something to aid his family and friends back in Holland, even with Dr. Dantzig’s friendly support and Dr. Veblen’s encouragement and big plans from Princeton. Ever since the publication of his doctoral thesis on the geometry of spacetime had received attention at the highest level of the mathematics and physics worlds, his career had taken off. One prestigious appointment followed another, and his hard work finally felt vindicated.

As a rising star in the mathematics world, couldn’t he have made some important contribution to the war effort by staying with Dr. Dantzig and working on some other war problem? Dantzig’s son, George, certainly seemed to have been able to strike that balance. A brilliant mathematician in his own right, George had so impressed his teachers at Berkeley that the government begged him to come and work on statistical problems for the Air Force. But then Willem would criticize himself for just following George. He had to make his own way.

“Our friend in Chicago was also impressed with your resolve after your visit last winter. I don’t share his disappointment with your decision, but then, I think I disappoint him as well. Once I wrote the letters

to the President, my interest in the scientific details of that endeavor was quenched. My concern remains the work to be done with a unified theory, which is why I'd like you to return to Princeton as soon as you are able."

His resolve. Willem laughed to himself, remembering his friend Dennie's reaction to the story of how Willem had threatened to resign his commission when the Canadians sent him to Rockliffe to teach ballistics and aerodynamics.

"Resign? You can't bloody resign. They own you. What did they say when you said that?" Dennie's eyes were wide in disbelief.

Willem laughed. "You know, they never said I couldn't resign. They just kept trying to placate me with reassurances, and then they'd give me another class to teach. I think I just finally wore them down when I asked to be transferred here."

Dennie shook his head. "You requested to be assigned here? You are a panic, as they say in the American films, Will. A bloody fucking panic."

Return as soon as you are able. With the invasion on, some spoke softly of the end of the war. Not in the mission room, where superstition and fatalistic custom forbade any such talk. But Willem sensed a tinge of nervous anticipation creeping into the bomber crews. Could I be one that survives? Will I have a life when this over? The lottery of death in the sky over Europe continued, though, with each mission, the Luftwaffe's ability to send them to the ground in flames diminished, and the amount of flak in some areas was noticeably less. The equipment was getting better, too. That was, however, often counterbalanced by the inexperience of the pilots and crews, who were rushed through training to replace the relentless toll of casualties. The death of their newest pilot yesterday on a training run was a reminder and proof of that problem. Willem had watched with several other crews as the new pilot committed

the common sprog mistake of banking too soon after take off. The plane slid sidewise in a stall and tumbled to the ground in a flash of burning fuel. The men shook their heads and turned away as the fire trucks and ambulances raced off to the scene to extract the charred and mangled corpses. He'd seen enough of those.

Life after the war. A second chance at Princeton. Seeing his mother and siblings again. A future free of random death and destruction, leaving behind the moral ambiguities of dropping bombs on innocents to protect innocents.

He stared at the mission board, lost in thought. The WAAF clerk looked up from her clipboard again and turned to him, and they finally made eye contact. At first Willem didn't realize she was smiling at him. He caught himself and reciprocated, eliciting a deep blush from her, then she turned away. He returned to the letter.

Could he really be close to heading home? He'd worked so hard to get here, invested so much energy – now could he look forward to getting out? The young enlisted girl's smile beckoned from the other side: the world of peace, and family, and home.

One adapts to the uncertainty of random, sudden death by narrowing the focus, living from hour to hour, doing the next thing very well with maximum attention. He'd arrived at that new equilibrium after that bad spell last winter, when Spike took him away on leave back to Dublin for several weeks of relaxation and new energy. It was at Harrie and Billy's place at Clondarf when he'd had his epiphany and came to terms with the uncertainty of his future. This new idea of life after war shook that balance, in a stimulating, unsettling way.

He looked at the last page one more time before he put the letter away.

“Please finish your work and return home safely. Heartfelt greetings. Yours, A. Einstein.”

Even after years of these intermittent letters, he still could not believe they were real. All from one brief encounter over lunch five years ago in the Fine Building at Princeton, and a passing remark about a coffee cup.

At the front of the room, another crew returned, and the pilot spoke in low tones with Sheffield. He nodded, face grim, and Willem caught the words “got the chop.”

“Bloody hell,” Willem heard Sheffield reply.

The pilot turned away for the debrief room, and Sheffield retreated to his office. Willem watched with a mixture of dread and morbid curiosity as the WAAF clerk picked up the eraser.

His friend Dennie was safe. Sheffield was safe. Tonight, he’d dropped his bombs with a clean conscience. The invasion was on. And Albert Einstein was waiting for him to return, a job for him back at Princeton.

The clerk erased the remaining two flights. 6.6% missing for the evening, Willem calculated automatically. His relentlessly logical and mathematical mind continued compulsively: projected out over the course of a standard tour’s required thirty missions – with generous rounding – tour survival probability was down to 13%.

Mickey Mitchell was not coming home.