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PROJECT

MARCONI AND HIS MUSES

A NOVEL BASED ON THE LIFE OF
GUGLIELMO MARCONI

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Prologue

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As he lay dying, Guglielmo Marconi wished he had paid more attention to the mechanics of his own body. He wished he had listened to the obvious evidence that not all was well. He could have approached it like a mechanical problem. He could have tinkered and tested, using different chemicals, materials, techniques. He could have found a way out of this mess. Instead, he was lying in a cold bed with stiff white sheets that smelled of bleach. He knew a wooden cross hung on the wall above his bed, although he could not see it.

Someone down the hallway was clanking. The sound echoed, clattering and bouncing off the cold pale green walls. Bedpans, Marconi thought. Some young blond nurse is soiling her lovely hands with bedpans.

In his imagination, she was like a bird. Flitting around some lucky man's bed, twittering to him to lift his spirits. He thought he could hear a whispering song in an upper register, accompanying the sharp metal sounds. It was a kind of aria. He felt that only he could discern this fluttering song. Only he could hear the slight sound waves. He concentrated. They drifted over the footsteps that receded down the hallway. They floated above a

conversation between two men who were speaking in low tones, one a baritone, one a bass. It was like a little opera. An opera sung only for him. He heard her trill one more short, papery note, and then she fell silent. The aria was over.

He sighed and became aware of his breath, his lungs like a farrier's bellows, the inhale a different cadence than the exhale. For sixty-three years, those bellows had done their work without fail. Their regularity and constancy were something to be amazed at. Machines were far more prone to breaking down and required constant supervision, yet this apparatus had been as regular as a clock.

So unlike his heart, which had let him down repeatedly. It came as no surprise. It was built badly from the start. A flaw in the wiring. First Annie, his mother, then Alfonso, his brother, and now he was suffering from a badly made "ticker," as the Americans called it. He became aware of his heart's rhythm. He sensed the irregularity, the abnormal quality of its beat. The pressure behind his breastbone was something he had grown used to—if one could grow used to feeling that an elephant was sitting solidly on his chest. He focused exclusively on his heart and heard the way it tripped slightly, like children trip and then catch themselves without missing a beat. And then he could not hear it. He threw his arm over his head, hoping his gesture would somehow increase his ability to hear.

He became aware of someone standing near him and opened his eyes to see Dr. Frugoni, cleaning his glasses on his white lab coat. Marconi said, "How is it, Frugoni, that my heart has stopped beating while I am still alive?"

Frugoni put his thick glasses back on and looked carefully at Marconi before answering. He cleared his throat and said,

“Don’t ask such questions. It is only a matter of position, because your forearm is raised.”

Marconi closed his eyes again. “No, my dear doctor, this would be correct for the veins, but not for an artery” he said. “But I don’t care. I don’t care at all.”

And the odd thing was, he didn’t care. He didn’t care about his heart. He didn’t care about his lungs. All he cared about was the aria the beautiful nurse was singing, for she had begun again. This time, there was no accompaniment. This time, she sang a classic Italian aria. He thought it might be “L’amour est un oiseau rebelle” from *Carmen*. “Love is a rebel bird,” he thought. The song enveloped him.

He could picture the nurse as she sang. She went to the windows, threw them open, and let in a flock of birds, each one with more brilliant plumage than the last. They filled the hospital room with color. Vibrant teal, crimson, and a bright yellow that contrasted with the vermillion green of the hospital walls. They swirled into the room, lured by the golden song. Their wings made a carpet of notes. The nurse unpinned her nurse’s cap and released her hair, which flowed around her face as though in a soft wind created by the birds. She looked Marconi squarely in the face and smiled.

Chapter One

THE BOY MIRRORS THE MAN: 1879

They say the boy mirrors the man, and as the boy dug in his heels, the saying was true. Guglielmo Marconi, five years old, was playing tug-of-war with his dog, Bella. She was a bulldog, as stubborn as he was, and they had been pulling on a red cotton cloth for over fifteen minutes. Thin, wiry, with arms like sticks of wood, the boy held on, refusing to give up.

They were on the sprawling lawn of Villa Griffone, the Marconi home outside of Pontecchio Marconi in Tuscany. The boy's mother, Annie, sat at a table nearby, sipping tea and watching with amusement. The boy was just like Bella. Nothing would make him veer from something he wanted. She poured another cup, added a lump of sugar from the rose petal sugar bowl, and called out, "Guglielmo, perhaps you and Bella should call this one a tie. You are wearing her out!"

Guglielmo shook his head and tugged even harder. But Bella had had enough. She abruptly let go, and Guglielmo fell backward and rolled into a rosebush. Annie rushed over. After making sure he was all right, she fed him a slice of Schiacciata alla Fiorentina, a sponge cake that smelled of orange peel and vanilla. He forgot all about the rosebush scratches and climbed into

his mother's lap. She smelled of rosewater and lilacs. He buried his face in her neck. Here was a place of safety.

At the dinner table, he always sat at her right, and she always gave him the best part of the braciole. She made sure he had enough raisins and pine nuts to spread on the thin layers of beef, and she added a thick layer of butter to his bread.

His father, Giuseppe, a glowering presence at the other end of the table, gave rolling accounts of the livestock, the vineyards, and the fig trees. He complained about the tottering gardener, the inebriated stableboy, and the way the scullery maid looked at the inebriated stableboy. He complained about the fall of grape prices, the rust infestation on the fig trees, the way that the dust from the road gave him a headache. Guglielmo tried to stay far away from him, but at dinner, everyone was expected to attend.

His brother, Alfonso, always sat at the right of their father. Nine years older than Guglielmo, Alfonso was positioned where he could see Guglielmo clearly. Sometimes Alfonso raised his eyebrows. This was a sign that Guglielmo should stop whatever he was doing—kicking the table legs, squirming, tapping his knuckles on the tabletop—that would draw his father's unwanted attention. When Alfonso's eyebrows became a flock of crows rising suddenly from the field, something was seriously wrong.

Alfonso had taught Guglielmo how to rub his fingers along the rim of a crystal wine glass and make it sing. If he rubbed with just enough pressure, he could feel the vibrations, the voice of the glass. After that, Guglielmo could not stop finding wine glasses and rubbing them. With the help of his mother, he lined up all the wine glasses in the house on the family sideboard. He discovered that if he filled the glasses with varying levels of liq-

uid, they would sing different pitches. He and Annie managed to play the first few notes of *Il Barbiere di Siviglia*, which was so funny to young Guglielmo he fell laughing to the floor.

Once, Guglielmo made the mistake of trying to replicate the fun with his mother's wine glass at the dinner table. He was so focused on the glass that he missed the frantic wiggling of Alfonso's eyebrows. His father roared his displeasure and sent Guglielmo from the table without supper. Later that night, his mother brought him an illicit bowl of ziti. She sat on the side of his bed and explained while his father was a good man, he was also a stern man who did not understand the wriggings of a young boy. He had been an old soul from birth, she said. One who treasured quiet, order, and a solemn, decorous demeanor at all times. It would not do to cause ripples. She left him with those thoughts after kissing him on the forehead.

Guglielmo flopped back in his bed and stared at the ceiling. Why couldn't life be more like the singing of the wine glass? A mysterious sound coaxed from an unlikely source. Who would have even known it was there? It had always been there at the dinner table. All those years, it had sat there, undiscovered, hidden within the thin walls of curving crystal. All those dinners with multiple unsung voices waiting to be activated, waiting to be played.

There were sights that no one could see. Sounds that no one could hear. There were mysteries and deep, dark caves to explore. There were thoughts that no one had ever thought before. The world was filled with the unknown, the yet to be discovered. His heart was on fire and his body seemed to heat up, fueled by these ideas. His mother understood. She would shield him from his father. She would make it possible for him to find the next song.

Chapter Two

FLYING HIGH: 1881

The kite was a thing of beauty. Guglielmo and his mother had spent the day crafting it. He had enjoyed the geometry. Folding the paper so it made a square, measuring the dowels, tying them into a 90-degree angle, positioning the cross, which his mother said was like the cross of Christ, cutting the paper into a diamond, taping the dowels into place—all of it had a satisfying cadence. He loved the combination of doing something with his hands and challenging his brain. It was just a kite, but there was something amazing about its ability to fly, to use a simple physical structure to command the wind.

At the age of seven, Guglielmo was constantly asking questions. As he worked on the kite, his analytical mind actively considered issues of torque, mass, velocity, speed, and tensile strength. He was like one of those Christian Crusaders his mother had told him about, always on a quest. He was driven to learn, hungry for facts, always imagining how to put them to use.

The next morning, Annie stood on a hill, holding the kite high. A storm had passed in the night, refreshing and invigorating the air. It was a perfect day to fly a kite. Guglielmo took the end of the string, turned, and ran, his short legs pumping so hard

he slipped out of one shoe. The kite, a simple, utilitarian white, flew from Annie's hand and stood out against the sapphire sky. She walked toward him, her red hair catching the light, her long skirts darkening from the dew. She was his protector, his companion, his savior. Ignoring the damp, she sat down in the long grass, shielded her eyes from the sun, and gazed up at the kite.

Guglielmo began to experiment, pulling the kite string so the kite dipped and danced. Annie started to laugh. Her laugh was as musical as her singing voice. It was the kind of laugh that made other people laugh as well. Guglielmo began to laugh in response, and the two could be heard all the way down to the shed where Piero, the blacksmith was working on the ancient plow. Piero looked up, hammer in hand, and smiled. On a morning like this, it was good to be alive.

Chapter Three

THE DINNER PLATE EXPERIMENT: 1882

The kitchen in the Marconi home was guarded over by Maria, the cook. Contrary to most great cooks, Maria was thin. Rumor had it that she poured all her calories into the one thing she owned of value, a solid gold filigreed cross that hung below the hollow of her neck. If she had been a jackdaw, the kitchen would have been her nest, for she guarded it with a zealous and possessive eye.

Guglielmo rested his cheek against the stuccoed wall in the hallway outside the kitchen and listened. He could hear Maria's heels as she walked back and forth between the stove and the butcher-block table. It was still before dawn, and she had beaten him to the punch. How was he going to get the plates? This was no small task. The family plates resided in a cupboard off the kitchen and the kitchen was rarely unoccupied. Activities began before sunrise as Maria began making bread for the day and various laundresses, scullery maids, stableboys, groundskeepers, butlers, and bootboys sailed through the place as though it was a busy harbor.

At 2:00 a.m., Guglielmo sprang from bed like a jack-in-the box. The cold stone floor under his feet sent an additional

jolt through him. Using the light of the moon, he stole softly down the stairs.

He stopped at the corner just before the kitchen and listened. He heard the *kyok-kyok-kyok* of a nightjar and the sawing of cypress branches as they chafed in the wind, but the kitchen was quiet. As silent as an owl on the hunt, he sprinted to the kitchen cupboard. Opening it quickly, he was startled when one of the hinges squeaked. He froze and caught his breath. But there were no sounds from upstairs, only the velvety stillness of a full-moon night. As he gathered up ten plates, he wondered at their weight. The family crests on the rim turned into disapproving eyes. He covered the plates with a dishcloth and, balancing them with difficulty, took them outdoors.

A warm breeze came from the direction of Bologna. The moon shone like a 5,000-lira coin and he could see easily.

Even at a young age, Guglielmo was a planner, and he had sketched out exactly what was to happen next. Down the road and over the first rise sat an old springhouse. Made of hand-hewn stone, it was seldom used and was the perfect place to hide the materials for his next experiment. The plates were heavy, something he had not calculated on, and he had to rest several times before he made it to the springhouse door. Once inside, he laid them carefully on the dirt floor next to the rest of his equipment. Coils of wire, wire snips, and the copper wire battery he had built in place lay neatly in a row, like sleeping soldiers. He had everything he needed, and if he was successful, tomorrow would be his noisiest, most dynamic, most thrilling experiment yet. His cousin Daisy would be impressed.



The following morning, Guglielmo rose early, despite not having slept much. He was afire with his vision, but somehow managed to gulp down his breakfast of hot chocolate and fette biscottate. Careful that no one observed him, he ran to the springhouse. The morning was wonderfully cool, with one of those teasing breezes that chilled the nape of his neck. A perfect day for a challenge.

The stream seemed to sing encouragements to him, and the architecture of its rocky banks was a perfect site for his plan. Guglielmo spent all morning setting up his experiment. He lugged the battery out to the stream bank and strung wire between two willow trees. Then he attached each dinner plate to the wire with metal clips. Each plate, with the family crest arranged so the doves appeared to fly away, was suspended above the rocky bank. He was only dimly aware of the stream's lilting tune as it cascaded across the slate and granite stones. He then ran another wire to the suspended wire and laid its end close to the battery. If all went well, the plates would fall on the rocks with a tremendously delicious crash. By midafternoon, he was set. He went to find Daisy.

In her own way, Daisy was as stubborn as her cousin. She was busy making dolls out of hollyhocks and wooden clothespins. She sat in the shade of a chestnut, the garden bumblebees droning as they flew heavily from rose to rose. At first, she refused to come. She had made four dolls and was busy with a fifth. "Why should I?" she asked reasonably.

Guglielmo described what was about to happen. The loud, electric sound, the huge and satisfying crash. If she stayed and made her fifth doll, which she could do at any time, she would miss something that was a first. Something that had not been

seen before. Something she would probably never see again. Daisy jumped up, her dolls forgotten.

Back at the stream bank, Guglielmo waited until Daisy was properly seated and comfortable. She smoothed her white muslin dress, put her hands in her lap, and stared up at him. His audience was ready, the equipment was ready, and he was more than ready. He connected the copper wire. The response was instantaneous. A thunderous electrical sound erupted, the plates were released from the wire, and they crashed down on the rocks, breaking into a thousand pieces.

Daisy, after a second of shock, clapped in appreciation. It had been an exciting moment. Guglielmo bowed like a magician, his heart full with his success. It wasn't until he straightened back up that he realized he had more than one audience member. His father stood on the opposite bank, a spaniel at his side. His face was dark, forbidding, terrible.

Summoned to his father's study, Guglielmo stood outside the mahogany door for a moment with his ear against the wood. At least his father wasn't shouting. He entered the room and decided to focus on the painting of hunting dogs above the mantle. A fire was burning, and Guglielmo could see his father's legs peeking out from behind his wingback chair, where he sat waiting.

Guglielmo knew there was no use trying to postpone his punishment. Still, he wasn't prepared for the sound of his father's voice. Void of emotion, icy and sharp, it was a weapon all its own. Giuseppe put heavy emphasis on certain words.

"Do you know what you have done?" he said. "You have *stolen* property that does not belong to you. You have *destroyed* property that does not belong to you. You have destroyed ten

emblems of our family, wantonly, without regard. They have been in our family for generations. They are *irreplaceable*. Do you understand? And all in the name of these stupid experiments that consume you.

“Your mother has supported you in your silly games. Well, this stops. This all stops *now*.”

Guglielmo was in bed for three days, lying on his stomach. His mother was sad and silent but in constant attendance. His pillows were fluffed, his back was rubbed, and his stomach was full of *ribollita*, a comforting soup made of bread and vegetables. His backside was bruised and raw from his father’s belt, but his mind was bruised the most.

What would happen now? Would his father continue to stand in his way? All during the beating, his father had maintained a cold demeanor and a mechanical hand, which had kept on beating long after Guglielmo ceased to cry out. He would never forget being bent over his father’s knee, his face crushed into brown tweed pants that smelled of *Toscana* cigars. Between blows, he had glimpsed his mother’s anxious face peeping from the hallway and heard Daisy’s wails from another part of the house.

But even as his Giuseppe continued to punish him, Guglielmo was thinking about ways to circumvent him. Perhaps if he stayed far from the house, he could set up some experiments deep in the woods, where no one was likely to stumble over them. Whatever his father thought of his dinner plate experiment, Guglielmo knew that it had been a crashing success.

Chapter Four

THE METRONOME: 1883

The metronome was ticking and tocking and knocking inside his head. His mother stood before him, her hands on her hips. Guglielmo was seated at the piano, his childish fingers trying valiantly to play the right notes with the right fingers at the right pace. It seemed impossible. Even the arpeggios were difficult. He squirmed, and the piano bench squeaked along the joints. He begged for release. Annie's eyes drilled twin holes. There would be no release today.

Day in and day out, without fail, he practiced. At first, he resented the routine and the dullness of the exercises, but he grew to appreciate the focus and discipline. It was structure, and within the structure there was a certain comfort, a certain knowing. He knew where he would be, what he would be doing, and when he would be doing it. And he was building something. He was growing something.

He started with simple tunes and graduated to arias di bravura, which his mother would sing with a full, bosomy voice. Francesco Maria Veracini's "Amor, dover, rispetto" was one of her favorites, and he learned it by heart to please her.

After they performed it together for family and friends who gathered for Christmas that year, and he looked around at the glowing, appreciative faces, Guglielmo started practicing even harder. Discipline, at least for something he was interested in, became like breathing, and the metronome became his friend.

Chapter Five

TURNING SOMETHING INTO SOMETHING ELSE: 1884

Daisy's sewing machine sat on the table in Guglielmo's bedroom. "Stolen!" it seemed to say. "You have stolen me from your best pal, Daisy! The one who made dandelion chains and put them around your neck. The one who gave you the cherry lollipop straight from her own mouth. The one who baited your hook!"

Guglielmo felt a little bit bad, but not bad enough. The sewing machine, with its heavy black iron wheel, had long been a powerful temptation. It seemed to ask, "Why am I a sewing machine? Must I always be a sewing machine? Can't I be something else for a while?"

He had also stolen a few tools from the shop in the stable. Hopefully, Piero would not need them today. They lay neatly beside the sewing machine, waiting for his inspiration. A screwdriver, a wrench, and a pair of pliers. One could do a lot with a few simple stolen tools.

With effort, Guglielmo pulled the table to the middle of the room so he could walk around it. The table legs skittered loudly on the wooden floor and he imagined someone bursting through the door, wondering what mischief he was up to. But

no one came. No one interfered. He walked around and around, observing the way the parts of the machine were connected.

There it was: the key. A small bolt near the base. He picked up a small pair of pliers and went to work.

An hour later, the sewing machine was in pieces. He had laid it out like a diagram, the wheel on the far right, the rest spread out to the left. He stared. An hour passed.

There was a circular sense to the machine. A turning connection that drove the needle up and down. What else turned? A wheel. Like the crank on the well outside in the yard. A spit. A spit! That's what it would become. He would have to turn the up-and-down motion of the needle into a strictly turning motion. Easy to do, since that was how the wheel turned anyway.

But first, he needed to find a good iron dowel. Guglielmo knew just where to look. Piero, who not only took care of Villa Griffone's squeaking hinges and loose shingles, was also in charge of the large spit by the barn. Here, the family roasted whole pigs. Onto the long, dowel-like iron spike, they threaded quails, lamb, and an occasional boar that the local hunters brought to trade for wine.

Stealth and speed would be his guides. Closing his bedroom door quietly behind him, Guglielmo started down the back stairs, the ones that led directly outdoors.

The day was overcast, and heat lightning flickered over the vineyard hills. Guglielmo wondered aloud why he couldn't hear any thunder. "Perhaps it's too far away," he surmised. "After all, what would the world be like if you could hear everything all at once, no matter how far away?"

He imagined a dense and complicated symphony of flapping birds, clomping Percherons, rattling wagons, honking geese, singing women, tooting boats, ringing bells, chugging trains; the list went on and on. He realized that he had stopped in the middle of the yard, and he wondered how long he had been standing there, his body arrested by his churning mind.

The air was heavy, weighted down by the stalled storm. Piero was staring at the axle of the hay wagon. He wiped his hands on his pants, smearing them with a line of grease. When he saw Guglielmo, he smiled, his suntanned face wrinkled and worn. He had often helped Guglielmo with small mechanical problems. Which way to turn to loosen a bolt. How to properly hold a hammer. Which screwdriver to use for which screw. He enjoyed teaching, and Guglielmo often wished he could learn more from him, for Piero had the gift of a natural mechanic.

However, Piero would definitely not abet him in dismantling the spit. But he wouldn't need to. Guglielmo realized that the spike was far too heavy for the sewing machine. The scale was off. His eyes rested on one of the screwdrivers Piero had been using. It sat on the black tarp where he put his tools to keep them clean. The screwdriver had replaceable heads that clicked into the handle. The flat head was just the right size for what Guglielmo needed.

Guglielmo had a sudden pang of conscience. If he took the tool, Piero would spend the rest of the day looking for it, trying to remember where he had put it, trying to reconstruct where he had used it last.

Piero stretched, his lanky frame seeming to touch the sky, and claimed the next hour was lunchtime. Guglielmo would have to act fast.

As Piero went to find the lunch that his wife made for him every day, Guglielmo grabbed the screwdriver and fled back to the house. He ran straight into Mignani, the family butler. Tall, gaunt, and dressed in black, Mignani resembled an undertaker. His eyes were those of a hawk. He immediately spied the screwdriver in Guglielmo's hand, as well as his guilty expression. Mignani put his hand out. Guglielmo hid the screwdriver behind his back. Mignani stood there, his age-spotted hand held steadily out in front of him, unfazed. Guglielmo reluctantly gave him the screwdriver and told him he had borrowed it from Piero.

Unbeknownst to Guglielmo, Mignani had been observing him quietly ever since he was born. The boy displayed an uncanny curiosity about the world. Mignani had followed his inquisitive mind, watched him conflict with his father, watched as he was doted on by his mother. He had seen the skinny legs elongate and the skinny ankles poke out from beneath the boy's trousers. Mignani had never married, never had a son. So he watched and loved from afar.

He told Guglielmo not to move—not one inch. He turned, left the room, and came back carrying a shiny new red-handled screwdriver. “This one is yours,” he said, briefly laying his hand on the boy's head. At that moment, Mignani became a confidant and a co-conspirator. From that day on, Guglielmo relied on his assistance whenever he could be wrested from his household chores.

Back in his room, Guglielmo separated the screwdriver bit and jury-rigged it onto the mechanism that used to be a sewing machine. He installed the wheel and tinkered with the rest of the machine until he had a working spit. He wished he could try

a squab on it. He was sitting back, admiring his new creation, when he felt eyes drilling into his back.

He turned to see Daisy, her mouth set in a frown. "You always do this," she said, "You always take advantage of me and my things and the fact that I won't tell on you. That was a very nice sewing machine I got from Nana, and you have ruined it." Although her words were calm, they had a shivering edge to them, and Guglielmo realized she was close to crying.

Guglielmo felt like a monster. He took a handkerchief out of his pocket and dried the solitary tear that had fallen from Daisy's left eye. He sat her down on the bed and explained what he had done. Then, step by step, he took the spit apart.

When he had everything laid out neatly, he reunited the screwdriver bit with its handle. He began to reconstruct the sewing machine. As he worked, he explained to Daisy what he thought each part was for. Every piece was important and served a function. There was nothing superfluous, nothing extra. The last thing he attached was the brass nameplate saying "Howe Sewing Machine." Even that had a purpose.

To Guglielmo, machines were fascinating. Every bolt, every washer, every piece of metal did something. Useful machines were sparse and to the point. He thought about manufacturing and how much an extra bolt might cost if you were making hundreds of them.

Daisy watched him closely. He demonstrated that her sewing machine was now as good as before. She sniffed, pushed him aside, and was not satisfied until she had run two pieces of white sheeting through it. The needle soundlessly and effortlessly bound them together.

Without saying another word, she left the room and reentered a few minutes later with her wooden wagon. She stood

still, her arms folded and her chin jutting out, as Guglielmo muscled the sewing machine into the wagon. When he had finished, Daisy left, pulling the wagon behind her, the wheels squeaking under the unaccustomed weight. She did not speak to him for the rest of the week.