



**Melting
at One End**

**Bleeding
at the Other**

JOHN SLADE

Melting at One End, Bleeding at the Other

John Slade

Photography by the Author

Northern lights and sun photography
by Vidar Lysvold

John Slade Books

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Thank you for your professional guidance,

boundless generosity,

and deep wisdom.

Map of Syria



Map of Norway



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Part One

Melting at One End, Bleeding at the Other

Notes from a Refugee Camp

Chapter One

People tell me that a sixteen-year-old girl does not think about such serious things. I tell them, that a sixteen-year-old girl who has lived through the horrors of war, who has lost her father and brother to war, who has seen her mother go almost insane from the war . . . Such a girl no longer thinks about her new telephone and her pretty shoes. On the contrary, she wonders why the rest of the world does *not* think about weapons manufactured in a dozen different countries exploding in a neighborhood where yesterday, children were going to school.

It doesn't really matter what war I have fled. There are probably hundreds of sixteen-year-old girls in the world today, in a dozen different refugee camps, living in a tent that flaps in the wind, breathing dust that covers everything, and listening to the shouts and the wailing, day and night, as each new throng of exhausted refugees entering the camp bring their reports from the war zone.

I come from an ancient country, littered with the debris of civilizations. The books which I read in school about the history of Syria are a chronicle of battles and wars and occupations so numerous that no child could ever remember them all. So of course, one could wonder: How many sixteen-year-old girls were caught in a war, in a siege, in a massacre, over the centuries? How many young girls were slaughtered? How many older girls were sold into slavery?

My mother, brother and I traveled in the crowded back of a truck through the night from Aleppo to the border with Turkey. With the roar of artillery in the distance behind us, we were allowed to cross the border. Turkish troops directed us to a nearby refugee camp. We were registered and given a tent with UNHCR printed on the canvas: the good people of the United Nations are now taking care of me and the remainder of my family.

For how long will we be here? Until the war is over. And when will the war be over? Or perhaps the question should be, "When will the *wars*—plural, since people first gathered along the banks of the Euphrates River—be over?"

I read in one of my schoolbooks that agriculture first developed in the "fertile crescent". Civilizations flourished because people learned the art of irrigation. Early engineers channeled water from the two great rivers, the Tigris and the Euphrates, through a growing network of farms. Once people had enough food, they turned their attention to other things, like commerce, architecture, a written language, mathematics, and a code of law.

Yes, great civilizations grew and flourished. Until, one by one, they were destroyed by some conquering army. Because, despite the flow of commerce, despite the magnificent temples and palaces, despite the poetry, despite the mathematics that reached from coins in the marketplace to stars in the night sky, and despite even the code of law . . . men kept fighting their wars.

So now a girl of sixteen years, finding herself with a long stretch of empty time ahead of her, will try to answer a question that the generals and the warlords and the dictators over the centuries perhaps never considered.

The question is not: "How to best fight and win a war?"

The question is not: "Why do we keep fighting these insane wars?"

The question should be: "How do we get *beyond* these wars? So that the children can get on with the task of civilization."

My name is Rashida. I was born in the Salaheddin district of the City of Aleppo, in northern Syria. Because of our magnificent ancient architecture, Aleppo has been declared a “World Heritage City”. It is now, increasingly, day by day, night by night, bomb craters and rubble.

My father is still in Aleppo, a member of the Free Syrian Army; he is perhaps alive, perhaps dead. My brother is also in Aleppo, a “video activist” in the streets with his little telephone camera, part of the “YouTube generation”. Ahmed is one of dozens of teenagers who are trying to show the world what is happening in our embattled country.

My mother did not want to flee Aleppo . . . until a helicopter gunship fired a missile at the apartment building next to ours and it collapsed, with hundreds of sleeping people inside. So she took her daughter and twelve-year-old son and joined the hysterical mob that was trying to get out of the city.

Now my mother, wrapped in a black *abaya* as she rocks with her eyes closed and moans in a corner of the tent, worries about Omar, her husband, worries about Ahmed, her fourteen-year-old journalist. She depends on me to fetch food when it is available, to fetch bottles of water when they are available, and to accompany her to the “sanitary station”.

My other job is to keep my little brother, Wasim, from leaving the camp so that he can go back to Aleppo and try to find his father and brother. Twelve years old, Wasim says that he is old enough to handle a Kalashnikov, or at least a telephone camera.

And so . . . this is just the right time and place, don’t you think, to consider the question, “How do we—how do *all* people—get beyond the madness of war?”

One thing about a refugee camp is that everyone is here. Muslims and Christians are standing in the same lines for water. Kurds who fled the American war in Iraq, and Syrian merchants who abandoned their shops in the *souk* in Aleppo, stand in the same lines for food. And in the long lines at the “sanitary station” stand people who a month ago were city people, village people, desert people.

We have as well “the Westerners” in our camp, European doctors and humanitarian administrators, with their clipboards and water bottles, and funny hats against the heat of the Syrian sun. One woman I especially like: an Irish doctor who wears a blue scarf (United Nations blue) over her red hair as she goes from tent to tent, asking about the health of the family huddled inside. Through an interpreter—a student from the University of Aleppo—she asks about fevers, vomiting, diarrhea.

When the doctor visited our tent, my mother stared at the ground, her normally alert eyes absolutely dull. I said to the doctor, her blue eyes very alert, “My mother is a midwife. She has been trained in a clinic. She has brought many babies into the world. Perhaps she can help you in the camp.”

When the doctor heard from the interpreter what I had said, she looked at me with gratitude, then she asked my mother for her name. My mother stared. I said, “Zainab. I am Rashida. We are tent number 827. When you need us, you call. I will bring my mother.”

That was a week ago. My mother now knows the way to the medical tent. She spends more and more hours there every day. Doctor Flanagan, or “Doctor Rosie”, as she asked us to call her, stopped this morning at our tent to tell me that my mother is “indispensible”.

I had some English in school, but “indispensible” was a new word for me. I will teach it to my mother this evening.

A few days ago, I spoke with a Christian in our camp.

What sort of Christian would you like? We have Greek Orthodox, Armenian Orthodox, Syrian Orthodox, Greek Catholic, Maronites, Nestorians, Chaldeans, Roman Catholics, and a scattering of different sorts of Protestants. (I could list as many different sorts of Muslims as well.)

The Christian with whom I spoke while waiting in a hot dusty line for bread was a Syrian Orthodox woman who taught economics at the university.

I asked her what Jesus had to say about children, especially children caught in a war.

She looked at me, wary, and yet she could understand why I might ask such a question. She invited me to her tent—after we had received our ration of bread and had taken care of our families—so that she could look through her Bible in search of a few particular verses.

I did later visit her in her tent, where she and her family welcomed me and shared their bread . . . but the verses which she found in her worn Bible came from a book in which men, grown men, were the important personages. Children were mentioned here and there, but it was the men, often in conflict with each other, who claimed the most attention.

Being the sort of girl that I am, I continued asking other people, Sunni and Shiites, and Alawis, and Ismailis and Druze, about children in their Koran, especially about children caught in a war. I pretended to be a schoolgirl working on a project which I would present in class when the war was over and everything went back to normal again.

Rather than offer my meager findings, I would ask *you* to do the same. What is written in your Holy Book about children caught in a war? What is written about getting *beyond* these wars, other than the invocation, countless times, of the word “peace”?

Because, you see, as a girl growing up, I had often accompanied my mother in her work as a midwife. I witnessed those first moments of breathing and kicking and wailing. I saw the smile on the sweaty face of the exhausted mother. I watched the care in every move that my mother made with her knowing hands.

I had witnessed, again and again, the moment when the Creator gave us another extraordinary gift. And because of that, I now felt very strongly that this war spat in the face of the Creator.

Ahh, but the Creator created more than just people. When the rains came each year to the desert and flowers bloomed where before there had been only rock and sand: that too was a gift.

I had seen pictures in my schoolbooks of butterflies in a rainforest. Of the tallest trees in the world, growing in California. Of sea birds that gather by the thousands on an island to lay their eggs. Of reindeer, in a flock like our flocks of sheep, but in a world of snow.

I so much wanted to see those places, if ever I were able to travel outside of my Syria (other than to a refugee camp in Turkey). That was the reason I studied English in school: so that one day I might visit California, to look up at a tree that reached like a minaret toward heaven.

So I began to ask people in the line for water and in the line for bread, what *their* Holy Book said about the animals, and the flowers, and about the fish in the sea. And especially, what about the animals that were caught in a war?

You might think that a girl going to school in Aleppo would never have heard about pollution and this thing called “climate change”. But of course I had, if only because the Euphrates River comes from the snow in the mountains of Turkey, and if the snow melts—as the Earth grows warmer—our great river will slowly disappear. And remember, it was this river which nourished all of our civilizations.

So I began to ask people in the lines for water and bread what *their* Holy Book said about “climate change”. What did their verses say about the melting of the snow?

Rather than present my meager findings, I would ask *you* to do the same.

Of course, we all know what the Holy Books say about women. We have our place, we have our duties, and so be it.

You might, as you conduct your research, pursue this line of questioning as well: How long shall women suffer in these unrelenting wars? How long before they rise up and begin to write a *new* chapter of scripture? A new gospel of peace.

* * *

Those are the thoughts of a girl named Rashida, in a refugee camp just across the border from the war in Syria, in August, 2012.

Ma salaama. Go in peace.

Chapter Two

I awoke one night, after about two weeks in the refugee camp, with the deepest, most searing loneliness that I had ever felt. While the roof of the tent shook in the night wind, and while the incessant voices called and worried and wailed outside (many refugees arrived during the nights, when they were safer from snipers), I felt a loneliness that was greater than any love I had ever felt, greater than any joy I had ever felt. Greater, even, than my rage at this horrid war.

Was I lonely because I missed my brother and father? Yes.

Was I lonely because I missed my homeland, my modern city, my normal way of life? Yes.

Was I lonely because I missed my friends at school . . . which, in years past, had begun in the month of September, less than a week from now? Yes.

But it was far more than that. I felt as if all the blackness of the night sky, without the stars, had poured into my heart.

My brother, my mother and I lay on mattresses along three sides of our tent; only I was awake. The flaps of the fourth side of the tent were tied to keep the dust out, or at least some of the dust. The flaps shook and occasionally rumbled in the night wind.

The tent was dark, save for the faintest glow of light: the moon shone through the canvas. Earlier that evening, as I stood in line at the sanitary station, I had watched the moon rising over the hills of Turkey; it was pale apricot, almost full.

The loneliness that I felt . . . I wanted to weep, I wanted to sob.

It was not for something that I missed. It was for something . . . beyond the war, beyond this time of fear and worry and rage. It was for the life that I had not yet lived, and might never live, for war brought death at any moment.

The government planes—the Russian MiG’s—that had bombed Aleppo and Idleb and Azaz—might they not bomb a refugee camp as well?

We could sometimes hear artillery to the south. What was a bit of canvas against an artillery shell?

Could a girl feel such loneliness for the life she had not yet lived?

I stood at the edge of my own grave, peering down into the blackness, while the ground slowly crumbled beneath my feet.

* * *

The following day, I searched for Doctor Rosie, the doctor from Ireland, because she was energetic, and capable, and from a world outside of Syria at war. I went with my mother to the medical tent, where my mother was immediately immersed in her work with several infants born during the past few days. But Doctor Rose Flanagan, an English nurse told me, was already out on her rounds.

Walking up and down the “streets” of the camp and asking along the way, I found Doctor Rosie in a tent crowded with a large family and their sacks of potatoes. Doctor Rosie’s interpreter was telling her that the family was from a farming village north of Aleppo, not far from the Turkish border, where they grew wheat and potatoes, and harvested olives from their trees. No one was sick, no one was hurt. The children were all well, though thirsty. Their village had suddenly been bombed by a lone warplane, and so they had fled.

Doctor Rosie asked questions, speaking not only to the two men but to the four women as well. Her interpreter, a young woman from the University of Aleppo, spoke to the men in Arabic, spoke to the

women, then translated their answers into English for Doctor Rosie. Standing just inside the tent, I could understand only a portion of the English.

Doctor Rosie took notes on a clipboard. In her blue shirt and trousers, and blue scarf over her red hair, she brought the authority—and hope—of the United Nations to people who had left their ancient well and clean water and olive trees. Suddenly, I felt enormously heartened to be standing exactly here, in this tent with an Irish doctor, at this moment; the loneliness was gone.

When the interview was over, I stepped quickly out of the tent, then greeted Doctor Rosie in English as she too emerged from the tent flaps. “Doctor Rosie, I am Rashida, daughter of Zainab, who is helping you as a midwife. I want to help you too.”

She recognized me and smiled faintly while her eyes squinted against the bright morning sun. “Can you take notes? Hala,” she nodded toward her translator, “is giving me the gist of what they say, but I fear I am losing a part of even that in my own notes.”

I offered, “As they speak, I shall take notes in Arabic. Then, afterwards, if you have questions, I could explain more fully to you what they have said.”

“Then,” she held out her pale white hand, the first hand of a Westerner which I ever shook, “I believe you may become as indispensable as your mother.”

And so I began my career as a doctor’s assistant, visiting two or three dozen tents every day, with my own clipboard and pads and multiple pens, writing the tent numbers and the names of the occupants, circling the names of those who needed medical care. Sickesses, injuries, particular worries: my Arabic filled page after page.

Then at the medical tent, after a lunch of whatever the Turkish authorities were providing that day, Doctor Rosie would announce, “All right, team!”, and the three of us would go to work. Rosie would go through her notes, tent by tent, often asking questions; Hala would translate into Arabic for me; I would respond, sometimes in Arabic through Hala (who often added her own information), and sometimes in English, if I knew the words. In that manner, Doctor Rosie developed a deeper understanding of each family’s needs, and thus wrote a new set of notes, far more detailed and professional.

And I, much to my delight, was learning English much more rapidly than I had ever learned it in school.

The loneliness still haunted me at night. But never again did I feel it as severely as that night when I had wanted to sob, to wail, for so much in life that I would never know, never do.

Because as I took my notes in Arabic, I listened to what the vicious war, the hideous war, had done to so many shattered families.

One morning, I took notes while in a tent with a dozen new arrivals: “unaccompanied children” who had lost their parents, lost their families, in the chaos when war had suddenly blasted into their villages. Someone had tossed them into the back of a truck, into a Chinese van, into a horse-drawn cart, and then they had ridden further from home than they had ever been before, to a border crossing, or to a hole in a barbed-wire fence.

Terrified, hungry, some of them sick, the unaccompanied children (now accompanied by two women—strangers—who stayed with them in the tent) barely whispered as they answered the doctor’s questions. Some of them cried; some of them stared at us, unable to speak.

They wore simple shirts and dresses made by a village grandmother . . . as well as brightly colored T-shirts with pictures of Batman and Cinderella, and words of unintelligible English. Some of the girls wore scarves; some of the boys wore baseball caps, backwards.

I was becoming more than a doctor's assistant. I was becoming a journalist, taking notes as I listened to the voices, and witnessed the faces, of the victims of somebody else's war.

* * *

Then a most remarkable thing happened, made possible by our Turkish hosts.

Turkey is a land as ancient as Syria, yet also a land almost as modern as its European neighbors. Thus Turkey served as a bridge between centuries of conflict, and a future potentially as bright as the sun.

In September, when school should have started, we had a new kind of school. My brother Wasim first discovered it. He was playing football with a group of refugee boys—a Norwegian aid organization had donated some sports equipment—when the boys noticed a group of workers building some sort of framework about fifty meters from the fence around the refugee camp. Two days later, the workers were fastening silvery rectangles, about the size of windows, to the framework.

“Solar panels,” guessed one of the boys, and he was right.

Within a week, several hundred panels had been installed, tilted so that they caught the sunshine from the southern sky.

By now, word had spread through the camp that the noisy generators would soon be replaced by silent sunshine. Our camp would be the first to have such “renewable energy”: there were no such solar panels powering the refugee camps in Lebanon, Jordan or Iraq. Turkey was going to show the world how a refugee camp *should* be powered, with a light bulb in every tent.

Near the frames with their solar panels, the men erected a metal building. One of the Turkish workers walked over to the fence and explained to people watching that the new structure would be a shed for the batteries.

The Turkish workers now laid a black cable across the rocky ground from the “solar panel array”, as they called it, to the battery shed. Then they laid a second cable from the battery shed to a smaller shed which they built inside the fence at one end of the camp.

They spent a day drilling holes with a machine along our streets, then stood a wooden post five meters tall in each hole: the beginnings of our new “grid”.

Everyone was outside of their tents now, watching. Though the war still ate at our hearts, something new had entered our lives. Something that promised . . . we were not sure what. The solar panels in the near distance, modern and clean and orderly, seemed to promise something intelligent.

The Turkish workers pulled long wires from wooden spools on trucks and strung them from pole to pole along our streets, while women wearing a black *niqab* over their faces, just below their eyes, looked up, watching them.

Small boxes were installed on some of the poles; thinner wires spread out like spokes, one to a tent, with a socket for a light bulb at the end of each wire. Our grid was almost ready.

The Turkish workers screwed hooks into the central wooden poles inside the tents, just below the canvas ceilings. They hung the sockets—still without light bulbs—from the hooks.

And then, no more than ten days after work had first begun on the solar panel array, the Turkish workers handed out modern light bulbs—with a short spiral of white glass—to the children, to the *children*—of the camp, one per tent. My twelve-year-old brother Wasim was one of the children.

The Turkish workers lifted each child up to the socket, then spoke with patient instructions until the little hands had managed to screw the light bulb into the socket. Then the children were lowered back to the ground and told, “Good work.”

Apparently the Turkish electricians now tested one string of lights at the far end of the camp, for

we heard a sudden cheer.

As the late afternoon sun, dusty yellow, descended toward the Turkish hills to the west, we were told, one and all, to go with our families inside our tents. The streets were quickly deserted, save for the Turkish workers who were almost festive as they called back and forth with final instructions.

I stood with my mother and brother in our cluttered tent; the air was hot from the sun beating on the canvas all day. We should have been preparing our evening meal in the last of the daylight, but instead we stood in silence, expectant.

When our light bulb suddenly lit, filling the tent with wonderful light, I saw my mother smile for the first time in weeks. We joined the enormous cheer from the surrounding tents.

I felt that we had finally, even with our one light bulb, hit back at the war that had caused so much destruction and misery.

The transformation brought by light in the tents was unrelenting: something new every day, every evening.

Even that first evening, we could hear the voices of women singing as they prepared a dinner for their children. We heard an old man laugh as he told a story across the street. We were instructed by the Turks to turn our lights off two hours after sunset, so to conserve electricity in the batteries. We did not mind. We could still hear women singing the lullabies of their villages, of their religions, of their cultures, in the stillness—without generators—of the night.

Schools were organized in various tents, some during the days, some during the evenings. Those who could teach taught those who could learn. A growing peacefulness, a growing happiness, settled on the children of the camp. I studied English during the evenings with a Scottish nurse named Abby. My brother, never before any kind of a student, declared that he was going to become an “electrical engineer”, and thus applied himself with unprecedented fervor to a daytime class in mathematics, and an evening class in “introductory electronics”, taught by one of the Turkish workers who otherwise maintained our “grid”.

But that was not all. The Turkish authorities had a further surprise. With the same smooth professionalism, they unloaded a variety of components from a dozen trucks, then assembled, in five locations around the outside of the camp, five wind turbines that would catch the winds which blew almost steadily, day and night.

The turbines soon stood on steel poles about thirty meters tall, held erect by four cables radiating from the top of the poles to heavy stakes pounded into the ground. Three white blades, each about five meters long, spun in the dusty blue sky. Electrical cables ran from each turbine to the battery shed. The entire operation, from the arrival of the trucks to the spinning of the blades, took four days.

Each tent now received, in addition to its light bulb socket, a different sort of socket with three sets of holes: where appliances might be plugged in. Fans were on their way from France, we were told. Fans that would blow on our faces during the heat of the day, fans that would bring the cool air of evening into our tents.

Radios were coming from Germany. Computers were coming from America, for—another first among the refugee camps—an internet café.

All powered by the sun. All powered by the wind. While artillery rumbled to the south, and horror stories ran through the camp with each new wave of refugees.

Chapter Three

I was deep asleep when I felt someone touch my shoulder, waking me up. Opening my eyes, I saw Doctor Rosie's face, lit by the glow from a tiny flashlight which she used to look into people's mouths. She was kneeling beside me, wearing her blue scarf. Her other hand was on her satchel of medical supplies.

"Rashida, please come," she said, her voice soft, urgent.

I stood up from the mattress and slipped on my blue *abaya* (a woman in the camp had made it for me, from material as close to United Nations blue as we could find). I tied a blue *hijab* over my hair, then followed Doctor Rosie out through the tent flaps.

Lights had been strung on the poles along the streets, another blessing from the wind turbines. But brighter that night than the amber lamps was the moon, nearly full and high overhead, bone white. The moon lit Doctor Rosie's face as she told me, "Hala left with her family. You are my translator now. It seems we have a special problem in one of the tents."

And then she led me across the ever growing camp, following a maze of streets through the moonlit tents—some with UNHCR on the roof, some with a Turkish Red Crescent—toward a new neighborhood where we would find, as Doctor Rosie told me, "tent number 1506. The occupants arrived a couple of hours ago."

Now in the last week of September, the nights were getting colder. Through my thin shoes, I could feel the cold ground.

We found the tent, with a cluster of people—women and children, as always, women and children, and one old man—milling about in the street in front of it. The moon lit some of their faces as they watched us approach; other faces beneath the *hijab* were no more than sharp eyes lit by a streetlamp. The eyes were anxious. These people had fled from the war that night, had crossed the border somewhere in the moonlight, had found the camp, but they were still not settled.

A woman gestured with a hand reaching from her black *abaya* toward the tent. "They are inside."

The flap was untied. Rosie led me into the tent. In the glow of her tiny light, we saw a young woman crouching in a corner with a bundled infant in her arms. The woman looked up at us and clutched the infant more tightly. She was a year or two older than me, no more than that. She was terrified, angry, ferocious; no one was going to take away her child.

Doctor Rosie and I both knelt in front of the woman. I said softly to her, "*Salaam Alaikum.*" Peace be with you.

"*Alaikum Salaam,*" she whispered.

She stared at me, her young face dusty, her lips parched.

"Ask her," said Doctor Rosie, "if we may see the face of her child."

The child's head was covered with a fold of the blanket that wrapped around its body.

I asked the woman if we might see the face of her child. I explained that the person beside me was a doctor.

The woman stared at me, gave a fierce shake of her head.

"What is your child's name?" I asked.

After a moment, she told me, proclaiming with a proud whisper, "Nawal."

I said to Doctor Rosie, "The child's name is Nawal. A girl."

The woman now looked at the fair skinned doctor beside me, her eyes only briefly on Doctor Rosie's face before they fastened on the gold crucifix that Doctor Rosie wore in the open V of her blue shirt. Doctor Rosie, as I knew, was an Irish Catholic.

And the woman, as I now guessed, was not Muslim but Christian, perhaps Chaldean, perhaps Assyrian. I said to Doctor Rosie, "I think she may be Christian."

"Ahh," said the doctor, who had found her first clue. Speaking softly, she told the woman, "Jesus loves your baby."

The woman's eyes stared with fresh understanding; she had caught the word "Jesus".

I translated into Arabic the short sentence, "Jesus loves your baby," and saw a softening, a reaching, the beginning of an acceptance, in the woman's eyes.

Doctor Rosie said, "Jesus, the son of Mother Mary, loves all children."

I translated.

"Jesus is with your child tonight."

I translated.

Doctor Rosie reached out her pale white hands. The woman loosened her grip slightly. Rosie slipped the fold of the blanket away from the child's face.

The infant was dead, eyes closed, parched lips open.

Doctor Rosie looked at the woman and spoke from her kind Irish heart, "Jesus wants to take your little girl home."

I translated.

"We will wash your child. We will wrap her in clean linen. We will give her a Christian burial. Jesus will take her home."

Then Doctor Rosie held out her hands, palms up, ready to receive the child.

With enormous courage, and with a degree of peace in her eyes, the young woman slowly pulled the fold of the blanket back over her daughter's face, then relinquished the child into the doctor's hands.

Doctor Rosie's face, for the first time since I had known her, filled with an aching grief as she clutched the bundled child to her heart. "Sweet Jesus, be with us tonight."

Then she handed the child to me. I, who had received so many freshly born infants into my hands from my mother, the midwife. I, who washed those wailing infants, then bundled them in clean linen, while my mother attended to the medical needs of the exhausted mothers. I, who had so many times felt the push of little hands, the kick of little feet, the flex of a living body.

I now received into my hands a child utterly limp, even a bit stiff, while Doctor Rosie touched the woman's face (to feel for a fever), then took her pulse. She opened her satchel, took out a plastic liter bottle of water enriched with electrolytes—such bottles came by the thousands from Sweden—and gave it to the woman with parched lips.

The woman unscrewed the blue cap and drank half the bottle before she paused.

Now Doctor Rosie stood, and I stood with the child. Doctor Rosie reached down, took the woman's hand, raised her up. She held the woman's hand as she led her out through the tent flaps into the moonlight. I followed.

The eyes of the clustered refugees watched us; they glanced at the child, stared at the woman. She must have been a stranger to them, someone who in the chaos of war became a part of their group as they fled toward the border.

As Doctor Rosie led the woman along the otherwise deserted street, the cluster of refugees, murmuring, disappeared into their tent.

I walked beside the woman so that she could see her daughter. She did not ask to hold her child again, though she looked often at the bundle in my arms. She had relinquished her little girl to Jesus.

Doctor Rosie began to sing softly, sending up to the moon the verses of what I guessed must be an Irish hymn. Her voice was filled with an aching strength, as we followed the empty lamp-lit streets

toward a special tent, located near the medical tent, where bodies were taken to be washed before burial.

While Doctor Rosie and the woman waited outside, I entered the unmarked tent, where two men were wrapping the body of an adult laid on a table. I was not surprised that people were working at this late hour; some of the refugees who staggered into the camp were barely alive. A few died within hours of arriving. Bodies were promptly prepared for burial.

One of the men nodded toward another table: I was to put the child there.

As I placed the bundle on a wooden table built by camp carpenters, I told myself that this was better than buried alive beneath a collapsed apartment building hit by a bomb; better than burned alive in a targeted church; better than shot, child and mother together, by a sniper. Better than torn apart by shrapnel from an artillery shell, while waiting in a long line in the street for bread.

At least, here in the refugee camp, there was some degree of order. Some dignity. Some vestige of human decency.

I asked the men, "When should I return?"

One of them looked up from his work. "Come back in an hour. The grave will be ready as well."

"*Shukran*," I said. Thank you.

When I entered the medical tent, I saw that Doctor Rosie was examining a new arrival . . . while the young mother, seated at a table nearby, ate a meal of bread, apricots and tea. I sat at the table with her, poured a cup of tea for myself, then told her, "I am Rashida."

She looked at me; she had washed her face and hands. "I am Yaara."

"Your daughter will be ready in an hour. The cemetery is just outside the camp fence. The moonlight, I think, will be very nice."

She looked at me with gratitude. "*Na'm*." Yes.

She offered me a piece of bread, then we drank our tea and watched Rosie as she listened with her stethoscope to an elderly woman's heart.

When Yaara had finished her meal, I suggested, "Perhaps you would like a hot shower? The water is heated by the sun."

"By the sun?"

"The water is stored in black plastic barrels on the roof of the shower. The sun shines on the barrels during the day. Even at night, the water is still warm. Sometimes, after working late with Doctor Rosie, I take a shower before I go to bed."

Had she ever bathed with anything other than buckets of water from a well? I did not ask, but led her out of the medical tent to the nearby shower for women. (The men's shower was at the opposite end of the camp.) I showed her the faucet, made sure she had a bar of soap.

"Take your time," I said. "I will come back with a towel and fresh clothes."

I would give her a choice: she could put on her old clothes, worn while she fled the war and while her child had died . . . or she could put on a new *abaya* from an aid organization in Turkey. She could choose what she wanted to wear to the funeral of her child.

And so, less than an hour later, the three of us, Yaara, Doctor Rosie and myself—and the little girl which I carried, wrapped in fresh white linen—entered a growing cemetery outside the camp fence. In the same manner that streets formed a grid among the tents, paths formed a grid among mounds of fresh earth. A boy who had just finished digging the grave led us in the moonlight to a short hole in the ground, a child's grave. Yaara drew back with a cry, her hands covering her face.

“Yaara,” said Doctor Rosie, “take your daughter in your arms one last time.”

The young mother—far braver than I could ever be—lowered her hands from her face; tears gleaming in the moonlight trailed down her cheeks. She held out her hands toward me. I gave her the infant, wrapped in pale white, a tiny creature in a cocoon.

Yaara hugged her child and wailed, and I thought of the loneliness that had filled my heart like all the darkness of the night.

Doctor Rosie said a prayer, her fervent words mixing with Yaara’s shrieks of grief as she called upon Jesus to take this child of war . . . home to a place of peace.

And then Doctor Rosie lifted her crucifix—a gold cross on a chain—over her head and, while Yaara watched, tucked it into the linen wrapped around the little girl.

“*Shukran*,” said Yaara.

“*Alaikum Salaam*,” said Doctor Rosie, patting her hand on the child.

She turned to the boy, who took the child from Yaara, placed it in a linen sling and lowered the pale white cocoon into the dark shadow at the bottom of the grave.

The loneliness . . . something in me *raged* against the loneliness. Against the bleak emptiness. And against the cruel, ugly stupidity of war.

The boy stood with his shovel beside a mound of earth, looking at Doctor Rosie. Should he wait, or should he begin to fill the grave?

“We go now,” said Doctor Rosie, taking Yaara’s hand.

We walked in silence through the cemetery, past graves with markers, past graves with nothing on the raw earth. Perhaps, when Yaara was ready, we would return to the grave with a cross, or a toy, or a desert flower, for her little girl.

At the medical tent, I said to Yaara, “You come home with me to my tent. You are my sister now.” She looked at me, too devastated to speak.

Doctor Rosie said, “Yes, I will have a mattress and blankets sent over.”

And so the two of us walked together to tent 827, while artillery rumbled to the south.

Chapter Four

I was standing in the early morning food line, waiting to collect provisions for a family of four (counting Yaara), when I spotted just ahead of me a boy who had been Ahmed's classmate in school. I had to think for a minute before I could remember his name: Yousef. He had visited our home in Aleppo several times, in part to work on homework assignments with Ahmed, and in part to show my brother his latest electronic device: a game player, a music player with headphones, and then a telephone that could take pictures, even films. Our father could not afford such "modern toys", as he called them. But Yousef had an uncle in Cairo who traveled back and forth on business; he had brought Yousef this telephone that took pictures.

I called to Yousef. He turned and looked behind him in the line, then he recognized me and called back with a smile, "*Marhaba, Rashida!*" Hello, Rashida.

Because I could not move forward in the line without causing immediate protests from the others waiting in the sun and the dust, Yousef willingly dropped back about twenty people and joined me. He explained that he and his family had arrived a week ago. Government tanks were shelling various neighborhoods of Aleppo. Warplanes and helicopters were bombing anywhere and everywhere in the city, so that no building was safe. Some neighborhoods had electricity and water, some had been cut off for weeks.

"It's the smell," he said, covering his lower face with his hand. "When they bomb a building where people live, where people were sleeping, we have no machinery to remove floors of collapsed concrete. Some of the bodies are removed and buried, but many . . . we can smell them from far up the street."

Though I was afraid to ask, for we had heard nothing from my brother and father during our six weeks in the camp, I thought that maybe Yousef might have some news . . . that maybe I could take back to the tent something positive for my mother.

"Yousef, have you heard from Ahmed?"

He reached into a pocket of his dusty trousers. "I will show you what Ahmed has done. Truly, your brother is a hero of the war."

He held "an iPhone", as he said, showing me the screen as he touched it. Very quickly, I was able to read, "*Aljazeera*", the banner of the Arabic news agency.

"We want 'blogs,'" said Yousef, touching the screen.

Now I saw a picture of young men with rifles running in a street filled with rubble; in the middle of the picture was a black arrow, pointing to the right.

Yousef told me, "I downloaded this YouTube in August. Ahmed filmed it on . . ." He pointed at tiny numbers below the picture, "the tenth of August."

I thought for a moment. "That was a week before we left Aleppo for the refugee camp. We had not seen Ahmed for over two weeks."

"He may have taken some videos before this one. He probably did. But this is the first that was broadcast on Al Jazeera. I had heard that he was in the streets with the Free Syrian Army, filming, so I started to watch every YouTube posted on Al Jazeera. I could tell by his voice that he had filmed this one."

Yousef touched the black arrow, then he handed the iPhone to me.

I watched, and listened, as young soldiers ran along a street filled with chunks of concrete and burning cars. I could hear gunshots, men shouting, again and again shouting, "*Allahu Akbar!*" God is Great!

Bodies lay on the street. The camera paused to show a woman's bleeding face, and blood splattered

across the pavement.

And then I heard—as if not only with my ears but with my soul itself—Ahmed’s voice speaking, “Tariq al-Bab district, Aleppo, ten of August, twenty twelve.” He did not identify himself; he did not say his own name.

The soldiers halted at a street corner, shouted about snipers. Then they turned the corner and entered a street where countless bodies lay sprawled on the pavement.

My brother, my fourteen-year-old brother, said, “They were waiting in line to buy bread.”

As Yousef and I shuffled forward in the line toward the distribution of food, my brother pointed his camera at a boy face down on the street, wearing a turquoise shirt with “ADIDAS” in white letters across the back. Now Ahmed knelt down and showed a horrid gash in the boy’s face.

“Shrapnel,” said Yousef, his voice tight with anger.

My brother filmed a woman our mother’s age, lying a couple of meters from a burning truck.

A man lay on his back, staring up with open dead eyes. Ahmed filmed the man’s bloody shoulder, and a few meters away, what may have been the man’s arm.

Two children, who no doubt had been with a parent or a grandparent, lay limp against the wall of a building, where the blast had thrown them. We shuffled forward in our line as I stared at the two children—two girls in bright dresses—one with back hair wrapped over her bloody face, the other with her skull broken open and the most horrid mess beside her.

I heard my brother say, “They were hit by an artillery shell fired from outside the city while they were waiting in line for bread.”

And then the short film stopped.

“That’s it,” said Yousef. “Most of the YouTubes on Al Jazeera are two to three minutes long. Two to three minutes of the truth, sent all over the world.”

Yousef touched the screen: I saw the Al Jazeera banner again, but the text below it was now in English. “Ahmed’s film,” he said, “went to London. To New York. To Washington. To Moscow. To Beijing. His YouTube is all around the world, with subtitles in English.”

I understood. My brother, a boy of fourteen, was running with soldiers down a street in the middle of a war, so that he could take pictures of children, of women, of anyone caught in the madness. And then the pictures taken by Ahmed the Journalist were sent to people all over the world, so that they would stop—would *stop*—whatever they were doing and stare at the horror in Syria.

“I don’t know how exactly he did it,” said Yousef, “but Ahmed must have had access to an iPad in some secret apartment where he could download his videos. With a hidden dish on the roof, the videos could be emailed out to someone who could then email them to Al Jazeera.”

Yousef looked at me with profound admiration for my brother. “Ahmed probably lived at that secret apartment. He could recharge his camera batteries. He could eat something, maybe sleep. Then he was back out in the war again.”

I wondered, Could I tell my mother? Would she worry even more?

Yousef said, “I downloaded five videos taken by Ahmed. Do you want to see the other four?”

“Four more?” I asked. I had seen so much already.

We were almost at the long table where aid workers were handing out big flat loaves of bread, various kinds of fruit, and whatever sort of soup they had prepared. I lifted the strap of a cloth bag from my shoulder, took out the plastic containers that we washed after every meal.

As food for four adults was distributed to me by a cordial team from the Netherlands—as their name tags indicated—my mind was back in the war, hearing the gunshots, the screams in the street on the night that we had fled Aleppo.

For my brother—my strong, brave brother—I agreed to watch the other four videos. Yousef and I sat on a bench together, before we took our meals to our separate tents, so that I could hold the little screen in my hand and see what Ahmed had seen.

Prisoners captured from the government army stood in a row in a room. One by one they said their names, for all the world to hear. A soldier from the Free Syrian Army, his face hidden behind a black mask, now spoke to the camera, saying that the prisoners would be well treated. I saw no blood on any of the faces. The prisoners might otherwise have been farmers, or truck drivers, for many of the soldiers in the government army came from poor villages. The faces of some were blank; others were wary.

In the next film, a man accused of being a government spy sat on the ground with his hands tied behind him. His face was swollen; he had clearly been beaten. Someone kicked him, knocking him over so that his face was on the dirt. Others shouted at him, asking him how much he had been paid. He protested that he was a taxi driver. Just a taxi driver. The film ended.

“Watch this one in English,” said Yousef.

A cluster of refugees were walking on a country road; I recognized their plight immediately. The women carried bundles, and infants, in their arms. Children old enough to walk were already exhausted. A few men, designated to accompany their families to the Turkish border, stared with fierce eyes at the camera.

And then a woman stepped forward and shouted in Arabic for all the world to hear, “Why is no one helping us? Where are our Arab neighbors? Where is the International Community? They know, they know, what is happening to us. Why don’t they help?”

Her words appeared in subtitles in English. Her bitter outrage needed no translation.

Then I heard my brother’s voice, “On the road from Tel Rifaat. September one, twenty twelve.”

Ahmed’s words appeared in English subtitles.

My hands were shaking as Yousef touched the screen once more.

This one was the worst. My brother filmed people who had been executed by government soldiers. They were civilians, not FSA soldiers, but civilians who had lived in a neighborhood which had gone back and forth between occupying forces. Accused of sheltering and feeding a rebel brigade, they had been taken down to their basements and shot. An entire family lay as a row of corpses.

I heard my brother’s voice, “Twenty-eight civilians massacred in their homes, and in a mosque. Salaheddin district, Aleppo. September three, twenty twelve.”

A subtitle in English made sure that everyone understood.

My family had lived in Salaheddin. The corpses lay in a basement no more than a few blocks from where I had grown up.

I gave the iPhone back to Yousef. “I can’t watch any more today.”

“I don’t have any more,” he said. “Only those five.” He looked at the ground in front of our bench, then he told me, “I have searched Al Jazeera since then, but I have not found any more films by Ahmed.”

The last film had been on September third. Almost four weeks ago.

I said to Yousef, “Will you let me know if you find another film?”

“Of course.”

I stood up, hoisted the strap of the heavy bag over my shoulder. “*Shukran, Yousef.*” Thank you. He nodded, too close to tears to risk speaking.

“I live in tent 827.”

He managed to say, “Tent 2,366.”

Then we walked our separate ways. I was late with the morning meal. I did not want to be late for my morning rounds with Doctor Rosie. So I walked quickly, realizing after a while that I had forgotten to ask about my father.

Chapter Five

All through the day, while I translated for Doctor Rosie, I did not know whether my brother was alive or dead, and I did not know if I would ever know. I had come so close to him that morning—I had heard his voice, I had marveled at his determination to tell the story of the victims of that wretched war—and then he was gone.

We did no morning rounds from tent to tent, for there were a multitude of injured people already at the medical tent who demanded the attention of our five camp doctors. Government troops had planted land mines along the border where refugees were likely to cross during the night, killing several people, severely injuring a dozen more. So close to safety, a group of several families had stepped into a nightmare far worse than anything they could possibly have imagined.

Translating not only for Doctor Rosie but for any doctor in the medical tent who needed me, I listened to anguished members of the families . . . and tried to reassure a dozen mangled people as they lay in horrid pain on the surgery tables. They were, of course, mostly children and women, and the few men who had accompanied them.

So I did not have time to think about Ahmed, to grieve for him. If anything, he would be proud of the work I was doing, and I let that thought fill the emptiness between us.

When Doctor Rosie, utterly exhausted, finished stitching the leg of a woman sedated with morphine, she invited me to have something to eat with her.

In the Doctors' Tent near the medical tent, we sat with several nurses from Poland who had arrived at the camp only days before. No one spoke as we ate dinner; maybe later we would have the strength to speak.

The nurses excused themselves. They wanted to sleep.

Doctor Rosie and I drank our tea. When she eventually looked at me, then said, "You're a trooper, you are", I saw a glimmer of admiration in her eyes.

"What is a *trooper*?" I asked.

"Someone who won't quit. Someone who doesn't give up."

"Oh, I . . ." What could I say? A girl in a refugee camp sees a way that she can help.

"You're a fine lass, you are."

I felt close enough in that moment to Doctor Rosie to ask her the question I had often wanted to ask during the weeks that we had worked together, "Doctor Rosie, why did you leave your Ireland to come to this place? Why would you want to be involved in a war?"

She stared at me, her eyes so tired that I thought she would not answer. Perhaps I had been rude to ask such a personal question.

"Rashida," she said, "I come from a country that had been at war with itself for centuries. The North against the South, the Protestants against the Catholics, the Orange against the Green, for hundreds of years. Only recently—after generations of children had been taught anger and hatred, after generations of men had fought their ugly battles in the city streets, after generations of women had seen their families poisoned with bitterness—did we finally quit."

She poured another cup of strong tea for the both of us.

"Oh, we still have a parade now and then, we still shake a fist at each other, but at least . . . most of the killing is over."

Doctor Rosie was about my mother's age. Perhaps she had children at home. And a husband who missed her. She had a gentle face, but her eyes seemed to have already seen a lifetime of struggle.

“So I requested three month’s leave from the clinic in Dublin, to come to a country where maybe, maybe . . . the people who had been fighting for centuries would finally quit. I wanted to help the people from Damascus and Aleppo and Hama and Homs, places we read about in the news, who were people just like the people of Dublin and Donegal and Kilkenny and Cork. I wanted to patch up the wounded, until maybe, maybe . . . peace came to Syria too.”

I had a further question. “But . . . what gives you hope? Does your Jesus give you hope?”

“Ah,” she said with a faint laugh. “The question should be, ‘What gives Jesus hope? What gives the good Lord hope?’ After what we’ve seen today, not much.”

Did Mohammed give me hope? Did Allah give me hope? I was just a girl, and probably should not ask such questions. But after what we had seen today . . .

“I will tell you what gives me hope,” said Doctor Rosie, with a touch of life in her voice. “You will laugh, I am sure, when I tell you: wind turbines.”

I did not laugh. Instead, I glanced up at the light bulb above us, then I pointed at it, as if pointing at a piece of evidence. “Powered by the wind.”

“Yes, and in Ireland, we have some of the best winds blowing across all of Europe. Just recently—oh, within the past ten or fifteen years—we started to put up hundreds of wind turbines across dear old Ireland. And we’re putting hundreds more out at sea, where the North Atlantic winds really blow. Rashida, I wish you could see them. I love to watch those long white blades up in the big blue sky, powering hundreds of thousands of light bulbs, North and South, Green and Orange.”

She smiled at a thought. “Do you know, the port of Belfast in the North, and the port of Dublin in the South, are now beginning to work *together* on the construction of offshore wind turbines. In the same yards where workers once built ships, men laid off work for years now build the giant sea-going turbines. Belfast and Dublin! Teaming up! Now that could give my poor Jesus a bit of hope.”

“Doctor Rosie, do you know how much I would like to visit your Ireland and to see those long white blades spinning in your big blue sky?”

“Then come, Lass. I’ll put you into a proper school. Because one day, your Syria is going to need you.”

What would my mother say, when her daughter announced in tent 827 that she wanted to go to Ireland?

“It is not only the wind,” continued Doctor Rosie, “but the sun as well. Would you believe me if I told you that the Germans are working with the Israelis to build a solar power plant in a desert in Israel? The Germans and the Israelis! Now that would give my poor old Jehovah a bit of hope.”

Israel. All I knew about Israel was that we hated them and they hated us.

“And let me tell you, Rashida, what Tunisia is doing. Not just having a revolution. They too are harnessing the sun, out in the desert, with technology from California. Tunisia will create thousands of modern jobs. Tunisia will develop university programs for the twenty-first century. Tunisia will produce enough electricity from the sun to power every city, every town, every village . . . even places which have never had a light bulb.” Doctor Rosie paused, then she added, “Tunisia is already planning to produce so much electricity from the desert sun, that a cable will be laid in 2016 across the bottom of the Mediterranean Sea to the grid in Italy. Tunisia and Italy, and the sun!”

An Arab country, newly free, stepping directly into the twenty-first century. And what about our Syria? Was such a dream possible?

“Rashida, the wind blows equally on every child, lifting her kite up into the sky. The sun shines equally on every child, warming her uplifted face.”

Then Rosie stunned me, for she said, “This is democracy.”

So much to think about.

From Ahmed's pictures of bodies lying in the street . . . to Doctor Rosie's vision of hope.

I told her about my brother Wasim, taking classes from a Turkish electrical engineer.

"There, you see!" said Doctor Rosie. "Children understand immediately what is important. May the school outlive the war. May the engineer outlive the soldier."

Then she yawned and looked at her watch. "Rashida, your Doctor Rosie needs to sleep. She must be ready in the morning for the war crimes of tomorrow."

* * *

While walking through the camp beneath the violet sky of evening toward tent 827, I wondered—for I am that sort of girl—what Mohammed would say, were he to witness today the war in Syria.

A prophet, after all, thinks about the future.

Chapter Six

Today, Monday, the first of October, 2012, I learned that my father had been tortured to death.

War is a hideous monster that plays with us. Again and again, it lets us hope, lets us believe that a miracle might happen, and then with its claws it rips that hope out of our hearts.

I was doing the morning rounds with Doctor Rosie, interviewing new arrivals, when we came upon a group of four young men and two women, gathered in a tent that had a different feel to it from any tent we had previously entered. There were no children. The two women were on their feet, while three of the men lay on their camp mattresses, and one sat, slumped. The women looked at Doctor Rosie and me as we entered through the tent flaps; none of the men even glanced at us.

One of the women explained that the four men had recently been released from a prison . . . from a school in Aleppo that had been turned into a prison by government troops. They had been questioned—severely questioned—and then they had been released . . . when finally, the government troops were convinced that the men had never been members of the Free Syrian Army. They were exactly what they said they had been: a shopkeeper in a market, a school teacher, a farmer from a village who had come into the city on market day, and a taxi driver.

“What do you mean,” asked Doctor Rosie, “by ‘severely questioned’?”

I translated.

The woman whispered, “Tortured.”

Doctor Rosie and I knelt in front of the man who sat slumped over, staring at the dirt between his ragged shoes. “*Marhaba*,” said Doctor Rosie without my help. Hello.

The man slowly lifted his face and looked at us with eyes I had never seen before: eyes filled with numbness, filled with pain.

Doctor Rosie did what she always did with the worst cases. She gently touched the face (the man winced), held a hand and felt the pulse, then took her stethoscope out of her satchel and listened to the heart, to the lungs. That was enough for her to learn a surprising amount about the person. Later, she would do a complete examination in the medical tent.

I translated and took notes as she asked her questions. The man spoke softly, but he was grateful for her attention and did his best to give us answers.

We examined the second man, who offered to show us his scars. They had burned him. They had cut him with knives. Worst of all, they had electrocuted him. He spoke not of the pain, but of the humiliation.

The third man could hardly move on his mattress. Doctor Rosie determined quickly with her fingers that he had several broken ribs. He groaned with each breath. When she listened with her stethoscope to his heart, he turned his head on a pillow of rolled clothing and said to her, “My heart is strong.”

“Yes,” she said, holding the silver disk of the stethoscope on his bruised chest, “your heart is very strong.”

The fourth man, lying on his back with his hands holding his abdomen, had been watching us. When Doctor Rosie and I knelt beside his mattress, he stared at me. His face had been badly beaten. When I asked him his name, ready to write it on my clipboard pad, he said, as if delivering an urgent message, “Bassam Ibrahim, friend of your father.”

Shocked, I could see now that the red and swollen face was that of my father’s great friend at the *souk*. They had adjoining stalls, selling their eggplants and peppers, lentils and parsley and rice in jovial competition with each other. They knew each other’s families, went to the mosque together, warned each other of government spies passing in the street.

“Bassam Ibrahim,” I said, my voice trembling, “praise Allah that you are here today. In this camp,

you are safe.”

He stared at me, then turned his face away.

While Doctor Rosie examined Bassam Ibrahim, asking questions which he answered while looking away, I wrote my notes. But my own question was rising in me, so powerful, so insistent, that when Doctor Rosie was done with her stethoscope and stood up, I leaned forward where I knelt and asked, “Mister Ibrahim, have you heard anything about my father?”

He stared away for a long moment, then he turned his head to look at me, with tears in his angry eyes. “Omar was with us. We discovered each other in the school they used for a prison. They found out . . . the bastards found out that your father was not always in his stall at the market, selling potatoes. Sometimes, he was in the streets with a Kalashnikov, fighting for his freedom. For your freedom. For a . . . different Syria.”

“Where is he now? Still in prison.”

“Rashida, they tortured your father to death. That was their way of dealing with any rebels they caught. Electricity, while he screamed until his heart stopped.”

He reached and held my hand. With feeble strength, he squeezed my hand. Then he closed his eyes, turned his face away and placed his hand once more over his abdomen, holding the hurt inside.

Doctor Rosie and I returned to the medical tent, where she ordered four stretcher teams to bring the men from tent 2,086. Half an hour later, as she did a complete examination of each man, I took notes on “prolonged and willfully inflicted injuries”: torture over a period of several weeks. The men had been beaten, then left to sleep on the hard floor of a school classroom for several days; they were beaten again, interrogated again, then neglected again. Each of the four men had been certain that he would die in that school. Their families had no idea where they were. Their bodies would be dumped in a street at night.

Then one morning, they were allowed to walk—to stagger—out the front door of the school. Other prisoners had just arrived in a truck, already beaten. The prison was running out of room.

The four men walked through Aleppo to the *souk* where Bassam worked. A friend immediately loaded them into a van and drove them north to the border; no one wanted to risk a second arrest. Other friends at the market promised to notify their families.

And so Bassam Ibrahim escaped, whereas my father perhaps had rifle shells in his pockets, a knife on his belt.

Following Doctor Rosie’s examination, a male doctor, a surgeon from Norway, talked with the men about torture to their sexual parts. I stood outside a curtain and continued to do the translating, speaking clearly to Doctor Jacobsen inside the curtain, while Doctor Rosie stood beside me and listened. Certainly, this was something a girl of sixteen should never be called upon to do, but I did it without hesitation. Even when Bassam Ibrahim spoke, my voice did not falter.

Doctor Rosie and Doctor Jacobsen stood outside the curtain together and conferred. Doctor Jacobsen complained about the lack of even a basic X-ray machine, while Doctor Rosie, who had been working in this hot, dusty medical tent for two months, could only shrug her shoulders.

The four men were treated for their pain, as well as for their injuries, then given further medication to help them sleep. Doctor Rosie and I accompanied them as they were carried on stretchers back to their tent. Inside the flaps, Bassam Ibrahim sat up on the stretcher, and then he stood, mustering his strength and his dignity so that he could properly thank the doctor, and me.

“*Shukran. Shukran,*” he said, bowing slightly to each of us.

We explained that we would be back in the morning to check on them. If they had any serious

problems, they should send someone with a message to the medical tent immediately. Day or night, it did not matter.

Otherwise, we would see them in the morning.

Bassam Ibrahim bowed again, his hands on his abdomen. “*Inshallah.*” God willing.

Outside the tent flaps, Doctor Rosie said to me, “Rashida, that’s enough for today. You go home . . . to tell your mother and brother about your father.”

Yes, and I would tell them about Ahmed too. Because now we had two heroes in the family. Two martyrs.

We could not bury either one of them. We could have no funerals. That was another curse—among the unrelenting multitude of curses—inflicted upon us by this war that day after day tore with its claws at our hearts.

These are the thoughts of a girl named Rashida, in a refugee camp just across the border from the war in Syria, in October, 2012.

Ma Salaama. Go in peace.

Due North

Chapter Seven

There seems to be a misunderstanding here.

Five days ago, on Sunday, September 16, 2012—on the Sabbath—the polar ice cap had shrunk to its smallest size on record. Scientists have been monitoring the arctic ice with satellites, watching the ragged white sheet of ice capping planet Earth shrink day by day, all summer, leaving more and more dark ocean water.

Ice reflects the sunlight; open water absorbs the sunlight, becoming warmer. Warmer water melts the ice from underneath. More ice melts; more open water appears; the sea becomes warmer and warmer. The cycle accelerates.

Until, sometime soon, the ice is gone. Then the dark open water capping the world will continue to warm, and no one knows how warm that ultimately might be.

Let me repeat: Last Sunday, the polar ice cap was smaller than we have ever seen it. Satellites have been watching since 1979, and on Sunday, we broke all the records. The ice is now only 49% of what it was, on the average, between 1979 and the end of the century in 2000. The ice is only *half* of what it was, just a few years ago.

The previous record for the most melting was during the summer of 2007. On Sunday, the ice was 18% less than what it was in 2007. The ice that vanished had a total area of 760,000 square kilometers (293 square miles), and thus was a bit larger in size than the State of Texas.

It would have been better, perhaps, had the State of Texas vanished.

The polar ice in 2007, small as it was, still reached from the ice cap to the shore of Russia. In 2012, five years later, the ice cap did not reach to the continent, and thus the fabled Northern Passage was open.

This is a change on a planetary scale.

And yet now, on Friday evening, we are tired at the end of a long week, so we have a nice dinner and watch a favorite program, we catch a bit of news about the presidential campaign in America, or the war in Syria, then we go to bed.

On Saturday morning, we can sleep late. Putter around the house for a while. Then maybe take a hike to look at the autumn colors.

So I would like to say again: There seems to be a misunderstanding here.

I am a sixteen-year-old kid living in a world that is changing on a planetary scale in a very unnatural way. This may well be the first step in a long procession of unnatural changes. As the oceans become warmer, weather will change. The winds will change. The rains will change. And nobody knows what those changes will be.

Not only do most people seem not to notice that the ice is melting at an unprecedented rate, but they seem quite willing to dump this catastrophe right in my lap. Here kid, welcome to hurricanes and drought. Welcome to wildfires and floods. Welcome to insects and blight and pestilence moving ever northward.

Sorry kid, but we don't have time to deal with it. We've got an election. We're in the middle of a war. We're having an economic meltdown.

Excuse me, sir, but the misunderstanding is this: That you can dump your mess into the lap of my generation, and just walk away.

Wrong for two reasons. One, it defies any sense of justice.

And two, because we can't wait. We can't wait any longer.

A scientist in Colorado stated, in response to the unprecedented melting of the polar ice, "We are now in uncharted territory."

We are flying blind.

What I learned in school this week was fairly interesting, but it doesn't begin to prepare me for the challenges that are soon coming. They're still teaching and we're still learning in the world that *was*, not the world that *soon will be*.

And the work that my parents did this week, running a seaside tourist resort, is important work . . . until the sea becomes angry.

The work that my grandfather did this week on his fishing boat is important work . . . until the fish disappear.

The work that my grandmother did this week in her garden is important work . . . until the potatoes disappear.

The great misunderstanding is that we can wait and wait and wait before we actually *do* something. Meanwhile, the twin horses of arrogance and ignorance are pulling our carriage at full gallop right toward the cliff.

I am convinced that my generation is going to have to take over at a very early age. But for that, we need an education that looks ahead to mid-century, and to the end of the century, so that, somehow, we are able to survive that long.

By the year 2100, shall we be brutes battling for remnants of clean water and arable land, or shall we be the intelligent creatures we were *meant* to be, building a new and well planned civilization?

I am thinking, you see, about my grandchildren, and their probable desire to have children, and grandchildren.

So we need to transform the schools. We need to bring the wind and the sun into the classrooms.

Equally important, we need to learn from each other, right around the world, so that our engineers and economists and lawyers and dreamers are truly international.

As a sixteen-year-old kid—who is one of many sixteen-year-old kids in countries around the world—I don't want to wait any longer, because the mess is just getting worse and worse.

So tomorrow, Saturday morning, my grandfather and I are going to do something that has never been done before in Henningsvær harbor. While the other boats are warming their engines, and while people from the village walk along the wharf on whatever their business may be, Bestefar and I are going to pull away from the wharf in a fishing boat that is completely . . . silent.

* * *

I should perhaps explain who I am, and where I am, and *why* I stand here with the sea washing the smooth rocks just beyond my feet.

My mother says I'm here because "You've been banished to your island." She does not want a moody teenage son telling her guests that the world is about to end.

It is a banishment which I welcome. For here on a small rocky island is a *rorbu*, as we Norwegians call it, or a "fisherman's cabin" as other's might call it, a traditional red cabin with white trim, built close to the water's edge. A porch of weathered boards wraps around three sides of the cabin, affording a view of the sea and scattered islands, as well as the

village of Henningsvær. Wooden steps lead down to a dock where a small boat can be tied up. My sea kayak now lies upside down on the dock.

This cabin, *Rorbu 16*, is part of the family business. Like the cluster of red cabins on the wharf in the village, it is rented to fishermen, especially during the cod season in late winter and spring, and to tourists, especially during the summer. Now in September, when *Rorbu 16* is usually vacant, it becomes my sanctuary.

I am standing at the smooth, salt-whitened railing of the porch, facing a quiet sea with islands near and distant, beneath a darkening violet-gray sky. I cannot yet see the first bright stars, though I *can* see, looking southeast, a pale orange moon low over the sea, nearly half full. I can hear the gentle waves washing over the rocks along the island's shore; I have heard the waves washing over rocks since my mother brought me back from the hospital in Gravdal and set me well bundled in a crib beside an open window.

I grew up on my grandfather's fishing boat, hauling up codfish hand over hand in the old way. Bestefar was the first to bring to my attention, a few years ago, that the snows were lighter, the spring sometimes earlier, and that the currents were shifting in mysterious ways. Cod like water of a certain temperature, and if that current of cold water shifts, the cod shift with it.

I was named Johan Erik after my great grandfather, who fished from one of the last of the sailing vessels. Before radios, before life jackets. The men had strong hands that had wrestled with lines and nets through a January blizzard and an April downpour, never mind just as long as you were bringing fish into the boat.

My calling, however, is not to be a fisherman, but to be, somehow, the guy who makes sure that there will always be fish, and thus fishermen, going about their business on the Norwegian Sea. And on planet Earth.

My calling is to worry about the melting ice cap.

I can see now, in the darkening sky on a crystal clear night, the first bright stars. The Queen of Summer is almost straight overhead, for in September she reigns supreme. But to the east I see the Queen of Winter, coming to claim her due. These two have shared the sky since the first fishermen landed on the Lofoten Islands and built their fires on the rocks to roast their cod. What shall they say, those two Queens of the night, if this tiny orb so blessed with life is suddenly no longer so hospitable?

I have learned in school that the mathematics which apply to starlight also apply here on our humble Earth. We people may speak our multitude of languages, but we are bound by *mc squared* to the stars.

Without going into a long thesis on the sanctity of life, one could ask, "Who are we to tinker with perfection?"

From starlight to a cold flapping slippery codfish in my hands, vibrant with life, we are offered that perfection.

Who are we to squander such perfection?

I do not care what church or mosque or synagogue or temple or wilderness altar you visit; in your prayers, you are speaking to a Creator who is a perfectionist.

And who, when insulted, is going to become very angry.

This curse of a sickened world: we brought it upon ourselves.

We sprinkle a bit of arsenic on our oatmeal every morning.

One day—not soon, but one day—we will ask forgiveness.

These are the thoughts of a sixteen-year-old whom my former girlfriend called "Intense."

My mother looks at me in the kitchen, while I wash the dishes after dinner and tell her about the Queen of Winter. And what will the Queen think about us on our dying Earth?

My mother asks me, baffled by this child of hers, “Where did you come from?”

My father is generally busy with the accounting books and the laundry and mingling among his guests in a jovial manner, giving me only an occasional glance as I pass by in an outer orbit.

My younger brother, twelve, is into football. I don’t exist.

My grandmother, a former schoolteacher, never stopped loving the kids and never stopping thinking about how to teach them better. She and I can talk for hours about the schools of the future.

My grandfather knows me perhaps the best, because I stuck to his boat, year after year, “like a barnacle.” I could walk on a rolling deck before I could walk on steady ground. My mother complained that as hard as she scrubbed me, I never stopped smelling of codfish.

My grandfather talks with me about the changing seasons, the changing weather, the changing currents, the changing birds. He says that the snow “feels different” on his face when we’re out on the boat in February. “It’s spring snow already,” he says, “not the last of the winter snow.”

And so tomorrow morning—one day before the autumnal equinox, when day and night are in perfect balance—my grandfather and I shall (we hope) demonstrate that people too are capable of a better, if not perfect, balance with our Earth.

The stars are completely out now; the night is fully dark. The Milky Way trails across the sky like the veil of a dancing bride.

The air smells so deeply of brine that I inhale hungry breaths.

Of course, a guy sixteen-years old could feel a little lonely at a time like this. So I walk along the porch to a corner, where I can look north at the black, jagged wall of mountains on a nearby island, mountains that tower over the sprinkling of lights in our village of Henningsvær. Our gods live up in those mountains, and our goddesses as well.

I would like, if it please you, a healthy Earth, on which I can live with a happy goddess of my own.

Chapter Eight

My grandfather and I ordered the new engine from Bremerhaven, an industrial port in northwest Germany where ships were once built, and where now offshore wind turbines are built. Bremerhaven has become a hub of advanced thinking, drawing engineers from around the world into its labs and factories.

Bestefar and I found, while searching online, one of the few companies in the world making hybrid engines for boats. (Hybrid cars are slowly becoming more common, but boats lag behind.) We sent the company the dimensions of our fishing boat, both external and within the engine hold down below. They had just the right engine; they had already sold over two hundred of them, from Finland in the north to Greece in the south. The batteries fit into a rack and serve as excellent ballast. The engine would be shipped by boat, accompanied by a fellow who would install it.

All we needed to do was provide the crane that would lift the old engine out of the hold, then lower into the hold the new hybrid from Bremerhaven.

Right on schedule, the fellow arrived in Henningsvær harbor last Wednesday, late afternoon, on a cargo vessel. The crane on his ship lowered the engine in a crate down to our wharf. Then it lowered a second crate, filled with batteries, down to the wharf. And then it lowered a third, unusually long, crate, containing a wind turbine that would fasten to the stern of our boat. The wind would charge the batteries, and the batteries would power the engine.

The cargo ship departed; it had further deliveries in Narvik, Harstad and Tromsø.

The mechanic, Matthias, checked into a rorbu (my father checked him in), then spent much of the evening uncrating the hybrid engine, the batteries, and the wind turbine (Bestefar and I helped him). He showed us the technical papers that accompanied the new equipment. Matthias spoke his German-accented English, while I spoke my Norwegian-accented English, and translated for Bestefar.

On Thursday, I took the day off from school so that the three of us could work together to lift the old diesel engine—a heroic motor which had labored through many storms—out of the *Laila*'s hold. Some of the bolts fastening the base of the engine to the floor of the bilge had corroded in the brine; cutting them took a lot of time.

But by Thursday afternoon, the old, dirty diesel engine was up on the wharf, and the hold had been scrubbed clean. My mother brought a picnic lunch to the *Laila* (named after my grandmother), so we paused for sandwiches and coffee . . . before we launched into the twenty-first century.

She had to bring a picnic dinner as well, with three thermoses of hot coffee, for the job—like any job worth doing—took a little longer than anticipated. The wiring on the fishing boat was a bit corroded; the new drill holes for the bolts didn't quite match up; the old hatch leaked water.

But the axel that turned the propeller fit into the hybrid engine perfectly. The rack that held the six batteries fit snugly into the hold. And the engine itself—really, *two* engines, diesel and electric—was so shiny and trim that Bestefar and I just stared at it—admiring it as a farmer might admire a young horse prancing in the pasture.

On Thursday we put the new engine into the hold. On Friday, we mounted the wind turbine, with blades 1.3 meters in circumference, atop a pole five meters tall, on the port quarter of the stern where it would not impede us when we were out fishing. The turbine and the blades were sky blue. Matthias told us that we would soon not even notice the turbine spinning above the boat.

We connected a cable between the turbine and the batteries. We connected another cable between the batteries and the engine. We also connected a fuel hose between the tank of diesel and that part of the

twin engine.

Then we ran a cable up to the cabin, where Matthias installed in the old oaken dashboard a stainless steel console filled with lights and buttons. Matthias also installed a shiny new throttle beside the ship's wheel. I kidded Bestefar that now the captain was going to have to buy a new shirt.

We had daylight enough on late Friday afternoon that Matthias could check the wiring. The batteries had come charged from Bremerhaven; the wind turbine was sustaining that charge, with no more than a breeze running through the harbor.

Matthias checked all the lights and buttons on the console, explaining each one to Bestefar and me as he did so.

Satisfied that all was in order, Matthias then turned the key in the console. Bestefar and I heard . . . a faint hum. Only by watching the digital numbers in several of the windows did we know that our hybrid engine was spinning in neutral beneath our feet.

“Ya,” said Bestefar, “I thought it would be maybe half as loud as the diesel. But it is . . . like a cat purring in my lap.”

On Friday evening, when my mother brought our picnic dinner, she also brought three bottles of German beer (from her stock in the restaurant cooler).

And now, today, Saturday, September 22, 2012, we shall be joined by my grandmother as the four of us take the *Laila* on a trial run out on the sea.

* * *

I paddled my kayak on gently rolling water beneath a crystalline blue sky, with a breeze from the north fresh on my face, from my sanctuary island to a floating dock attached by a ramp to the wharf in front of the family cabins. The red cabins in the morning sun were radiant: bursts of color on a seascape canvas.

The cabins were completely occupied, I knew, for people from the University of Ås were having a weekend conference. That meant that the big white restaurant on the wharf was open for breakfast. My grandparents would meet with Matthias and me for eggs and oatmeal, at a table all our own (ignoring the hubbub around us). Then we would walk to the harbor and board our twenty-first century vessel.

I tried to convince my mother and father to come with us today, but they were totally engaged with the conference. I told them that Ingvill and Ulf, our two managers (who have been with us for years), could easily take care of everything for a day. But no, my mother and father couldn't think of spending a day at sea with a new hybrid boat engine. Maybe next weekend; only half of the cabins were booked, with no large parties.

So I told my mother and father that when we returned on the *Laila* after a day at sea, we would pull up to the wharf in front of the reception building. My mother and father were to come out outside on the wharf—I made them both promise—so they could join us for the final leg of the voyage around Henningsvær to the harbor. I wanted them to be on the boat today for at least a part of the trip.

Because what we were going to do today (if all went well) was going to be an important chapter of our family history.

The *Laila* with her magic engine was waiting for us at the wharf in the Henningsvær harbor, in the shadow of a cod processing factory (which had the crane that we had needed). The morning sun had not

yet lifted high enough, nor swung far enough south, to shine directly onto the eastern side of the long narrow harbor. Only the boats and the buildings along the western wharf were lit. As well as, of course, the seagulls whirling and screeching overhead.

One other thing was in the sunlight: the wind turbine on the *Laila*'s stern reached up high enough (five meters) that the nacelle and spinning blades were brightly lit, a slightly darker blue than the pale blue of the morning sky.

The four of us climbed aboard. I went forward and loosened the bow line. My grandfather loosened the stern line. My grandmother went below to the galley with the makings of our lunch. Matthias went into the cabin for a last minute check of all systems.

We had decided, over breakfast, that we would not simply motor out of the harbor to the sea, but would parade the entire length of the long narrow harbor, so that other fishermen on their boats—who had of course been watching us at work for the past two days—could listen for themselves. We wanted to brag.

Our plan was quietly dramatic: when we pulled away from the wharf (with Matthias at the wheel and throttle), instead of continuing north toward the mouth of the harbor, we would hook in a tight U-turn and motor *south* to the rock wall with a road running over it at the south end of the harbor. Then we would make a second tight U-turn, toot our horn, and parade our twenty-first century vessel along the entire length of the harbor, heading north on a busy Saturday morning for all the world to see.

And that is just what we did. Standing on the bow, I could not hear the engine running. When Matthias gave me a thumbs-up from the cabin window, I cast off the bow line. Bestefar cast off the stern line. Matthias idled; our crew of three joined him in the cabin. Bestefar and I opened the windows to the breeze from the north.

We were ready.

Matthias spun the wheel, shifted into forward and eased away from the wharf. As we made our tight U-turn, the *Laila* was suddenly lit by bright morning sunshine.

We continued in sunlight as we glided, silently, south. No one in the harbor noticed.

We hooked again at the harbor's end, where several fishing boats—I thought of them now as old-fashioned chuggers—were moored to a floating dock. Matthias pointed our bow up the long narrow length of the harbor, toward the dark jagged wall of mountains that towered above Henningsvær . . . then he idled the engine.

“All right, Olav,” he said to my grandfather. “You’re the captain now.”

And so my grandfather took the helm. He gave a quick excited look at my grandmother, and at me, then he stared ahead at the stripe of blue water with boats moored along both sides.

He glanced up—as all of us in the village are always glancing up through the day—at the wall of black mountains where our gods lived. The gods and goddesses were today looking down, watching intently.

Then my grandfather shifted from neutral into forward, gave the engine some throttle . . . and the *Laila* glided forward with all the beauty and assurance of a bride walking up the aisle.

My grandmother reached up to a cord hanging from the cabin ceiling and announced our departure with three blasts of the air horn.

People looked up and noticed. My grandmother and I left the cabin and walked forward to the bow. Matthias stayed with Bestefar in the cabin. People waved from their boats and from the wharf. Some cupped a hand to an ear, then called out, “I don’t hear a darn thing.”

We were the first boat in Henningsvær harbor with a hybrid engine—the first to make the investment—and a few of our friends even clapped. We were pioneers, getting away from diesel, getting away from

oil, getting away from this thing called “climate change” that gnawed at our hearts. And so for a few minutes, my grandfather at the helm, waving back now and then while he kept a sharp eye forward, was a hero. In a village with a long history of heroes.

When we reached—angling to the right (starboard)—the end of the harbor, every vessel behind us saluted us with their air horns. My grandfather laughed with triumph.

With the wall of mountains now to our left (port), we threaded slowly between several low rocky islands, their sparse bushes now burnt orange with autumn.

Then, as our captain throttled to a good running speed, we began to feel the welcoming swells of the sea.

Chapter Nine

We headed east on the open waters of Vestfjorden, the western fjord.

Most fjords reach deep into the mainland of Norway, often for many kilometers. Vestfjorden, however, is not a normal fjord. Yes, it is long and increasingly narrow, but it is bounded not by the flanking continent. It is bounded by the Norwegian coast and by an arm of islands—the Lofoten—which reach out southwest from the coast, as if hugging the fjord.

So Vestfjorden is not embraced by the land; it is a fjord out in the sea.

The currents run stronger in this fjord. The winds blow from all quarters. The storms off the North Atlantic are still remembered by the sailors who survived.

On a clear day like today, we could gaze east about forty kilometers across the fjord and see the parade of jutting mountains along the coast. That was where the poor Mainlanders lived, folks who had a bit of salt in their blood, unlike Lofoten folk, who had a bit of blood in their salt.

Once clear of all islands and shallows and reefs—out where the water rolled with smooth waves from the north—we began a series of maneuvers so that Bestefar at the wheel and throttle, and then me at the wheel and throttle, could get the feel of our new engine.

Following instructions from Matthias, Bestefar turned the *Laila* in a full circle to starboard, proceeded east a short distance, then turned a full circle to port. We did the same again, with larger circles at a greater speed. First my grandfather, and then I, learned the strength of the engine as the boat motored *with* the waves, then *across* the waves, and then *against* the waves. We learned how quickly we could pick up speed. Matthias told us to repeat these circles on days of rough weather.

There were two immediate blessings from the hybrid engine. First, we did not have to listen all day to the growl of a diesel engine. We could hear the seagulls complaining, as they circled above us, because we were not cleaning fish. We could hear the waves washing along the sides of the boat. We could hear the whisper of the wind turbine as it spun.

And second, we were not breathing diesel fumes all day. Out on the sea, where the air is clean and fresh, fishermen so often spend the day filling their lungs with diesel exhaust. If, as they pull their nets, they are downwind from the blackened exhaust pipe, the smoke sweeps over them. They might as well be working in a factory.

But we had not yet turned on the diesel portion of our hybrid engine. We were still running on the batteries, and the wind turbine was charging them even as the engine was drawing from them. And so, as we made our circles, we breathed the fresh briny air.

I loved to watch our wind turbine, standing tall on its sturdy post above the stern. The nacelle (the housing which contained the generator) and the blades quietly swiveled whenever the boat turned, efficiently catching the breeze from the north.

We maneuvered in reverse. We zigzagged. We throttled to full speed, riding with the waves, across the waves, and against the waves.

Our twenty-first century engine was strong, silent and clean. We would of course have to test it in stormy waters, with rough waves and a harsh wind, but so far, the shake-down cruise was a genuine success.

When Matthias was satisfied that his two students had mastered their first lesson (future lessons would be self-taught, for Matthias would return tomorrow to Bremerhaven), he and my grandfather joined my grandmother on the stern deck, while Captain Johan Erik took the wheel.

I pointed the bow due north and proceeded at a moderate speed, so that the boat rolled over the waves and did not beat into them. The wind was from a bit west of north, but keeping an eye on the compass, I held our course at exactly due north.

Toward the polar ice cap.

Here on the Vestfjorden above the polar circle, we were not all that far from it. A vast area of ice had once reflected the sunlight shining on the top of the world. An increasing amount of open water now absorbed the sunlight shining on the top of the world. The sunlight warmed the water. The warm water melted the ice from below. More ice melted. The cycle was accelerating.

Yes, I headed due north, toward the polar ice cap.

I had learned in Sunday school, “And God said, Let the waters under the heaven be gathered together unto one place, and let the dry land appear: and it was so.”

As a little kid living on an island in the sea, I learned in Sunday school that the sea and my island were a part of God’s creation.

I learned as well that God had a definite opinion about his creation. “And God called the dry land Earth; and the gathering together of the waters called he Seas: and God saw that it was good.”

That’s it right there: “And God saw that it was good.”

Who are we, I wonder, to destroy the goodness of God’s creation?

Are we not taking a great risk?

As the warming seas change the weather, change the winds, change the currents that course around the Earth, shall we not know convulsions in our world as great in their destruction . . . as those early days were great in their creation?

Therefore did I point our bow due north, and proceed at a slow but steady speed toward that shrinking, ragged, wounded sheet of ice. I wanted it to know (never mind the silliness of such a communication) that today, one small boat was powered not by diesel, but by the wind. I wanted the polar ice cap to know that four people genuinely cared.

That’s about all a sixteen-year-old kid could do. With the backing of his family. With a limited budget, in a weak economy, we had invested in the twenty-first century.

Standing alone in the cabin, looking ahead at the expanse of blue water bounded along the distant horizon by the islands of the Lofoten—many of them mountains leaping up from the sea—I sent north both a prayer, and a promise.

A prayer of contrition, for if there is any sin greater than the sin of war, it is the sin of destroying God’s perfect creation.

And a promise that one day, as an engineer, or as a lawyer, or an economist—I wasn’t sure yet what profession I would pursue—I would design a better engine; I would defend in some world court the Earth herself; I would turn today’s economic jungle into an economic Eden. Such high hopes can a sixteen-year-old have.

For half an hour, at least, was our voyage both a promise and a prayer, as we motored silently due north toward the melting polar ice cap.

We had a splendid picnic lunch at sea, all German, for my grandmother had made *wiener schnitzel* with German potato salad, washed down by good German beer. It was her way of saying “Thank you” to Matthias.

While we wandered all afternoon over the open sea, taking turns at the wheel, the equinox sun, yellow-white, arched across the southern sky. Tomorrow, September 23, was the actual equinox, but close enough. The sun was leaving its summertime realm, high in the heavens, where it had shone both

day and night. The sun was now entering its wintertime realm, descending lower and lower in the south until it would disappear completely. We Norwegians call it *mørketid*, the dark time. The polar night.

At around four in the afternoon, Bestefar took the wheel and Matthias stood beside him as we headed back toward Henningsvær. We did not go straight to the harbor, but hooked inside a patch of small scattered islands and headed toward the cluster of bright red *rorbuer* (-er indicates the Norwegian plural) on the outer, eastern, shore of Henningsvær. We were arriving, by my watch, at ten minutes before five o'clock. My mother and father had promised to be on the wharf at five.

They were, my mother with her camera. As Bestefar brought his vessel broadside to the wharf, my father called to him, "How was it, Dad? Do you like your new engine?"

I stood on the bow, ready with the line. Bestemor stood on the stern, ready with her line. Matthias stood back from Bestefar in the cabin, so that all could see through the cabin windows who was captain.

"Sven, on Monday morning, when that crowd of conference people are gone, you and I are going to take a run to Svolvær and back."

On Monday, I would most reluctantly be back in school.

Svolvær was a port twenty-six kilometers up the coast, with a hardware store that my grandfather loved.

"Svolvær!" called my father. "What do you want now in Svolvær?"

The *Laila*'s bow touched the old tires fastened to the pilings. I hopped off the bow onto the wharf and snugged my line.

"First of all, I'm going to get you out of that office. I'm going to take you out there on the sea where you can *breathe*."

"All right." My father took the line from his mother's outstretched arm, then pulled the stern into the pilings and snugged his line.

"Second, you're going to take the wheel for a while. That's something, Sven, that you can't do on your darn computer."

My father walked to the cabin amidships and peered from the wharf through the open window at his father. "Sounds good to me."

"And third, I want you to see for yourself—because no one will believe it from me—that we have been out at sea all day, and now have returned to the wharf, and never once did we use the diesel engine."

"Never once?"

"Never once."

My mother, always the quiet one, stepped aboard the *Laila* with her camera and a cloth bag. She disappeared down the steps to the galley, then reappeared with just her camera.

"Are we ready then?" asked Bestefar, looking forward and aft.

"We're ready, Dad."

"Bring your lines aboard!" called the captain to his crew at bow and stern.

I freed my line, my father freed his line, then we both hopped aboard. As I coiled my line on the bow and lay it snug against a gunnel, the *Laila* glided silently away from the wharf.

I was so glad for this moment when most of the family were together. Rarely did my father and mother come out on the boat. They were always busy, answering the office phone, emailing a grocery order, painting the walls of a *rorbu* bedroom between guests. I was glad to see them outdoors, happy and relaxed.

While we headed north up Henningsvær's outer shore, all six of us looked up at Vågakallen, the ridge of jagged mountains, their black rock now tinged with red in the late afternoon sunshine. The

mountains were separated by a short expanse of water from the small, low, glacier-polished islands of Henningsvær, enabling the peaks to peer down at our human doings, while remaining silently aloof.

The *Laila* hooked into the long narrow harbor, where the boats and buildings along the eastern wharf were now tinged with red by the afternoon sun, whereas the western side was muted in shadow.

The harbor was a channel of water sheltered between two long islands. A wall of rocks had been built across the channel near its southern end, protecting the harbor from waves rolling from the open sea. A road passed over the wall of rocks, connecting the two main islands. Were a person to walk from one end of this unusual harbor to the other, the journey might take from fifteen minutes to an hour, or more, depending on how many people he stopped to talk with.

Again we paraded along the harbor, with silent grins, waiting to be noticed. When a friend washing down his boat called to us, asking how far we'd gone before the fancy new engine went dead, my grandfather called back, "Been going non-stop all day, and never once on diesel."

"Never once?"

"Never once."

And so we distributed the news from one end of the harbor to the other: The new hybrid engine, powered by a wind turbine, was a winner.

When finally we had finished our strutting and snugged our lines at the wharf, my mother took pictures of captain and crew at their stations, and of the wind turbine with the family gathered on the stern deck beneath it. This was history.

Then she went below to the galley and brought up her cloth bag . . . with a bottle of the restaurant's finest champagne.

Chapter Ten

We had a celebration dinner, the six of us, not at the restaurant with the conference crowd on a Saturday night, but at the Old Homestead, as Bestefar called it: the home where he and my grandmother had raised four children, two boys and two girls, and where they greatly enjoyed, now and then, filling the chairs around the big family table.

My father told us during the dinner that his brother Lars had sent an email with some pictures from the refugee camp on the border of Syria. This was the first time we had heard from Uncle Lars since he had departed on a three-month medical assignment with Doctors Without Borders. He mentioned, my father told me, that he had emailed a copy of his letter to me as well. It would be waiting for me on my laptop in Rorbu 16 when I paddled home that evening.

I was proud of my Uncle Lars. He had left a safe practice as a surgeon at the hospital in Gravdal for a war zone on the other side of the world. I looked forward to seeing what sort of pictures he had sent.

Following dinner, my parents and I accompanied Matthias to his rorbu on the wharf. He would leave tomorrow on the bus to Svolvær, where he would catch the ferry to Bodø. We thanked him heartily and promised that we would send detailed reports on the hybrid's performance.

Now it was my turn to say good night. I thanked my mother and father for coming aboard on the last leg of our voyage. They both looked a little less weary. The busy summer season always took its toll. Now that they had been on board the new *Laila* this once, they would be more likely to go again.

I hugged my father, kissed my mother, then walked down the ramp to the floating dock and launched my kayak under a sky full of early autumn stars. The Queen of Summer peered down from high overhead, very pleased with our progress today. The Queen of Winter, rising above the Norwegian mainland, looked forward to our future progress.

Feeling strong, I paddled out on the dark sea for perhaps a kilometer with the amber half-moon shining on my right. Then, for a while, I paddled directly *toward* the moon, running with the waves from the north. As each wave lifted me up, I could see the amber sheen of the moon on the dark water ahead of me.

When finally, reluctantly, I paddled back to my little island, the Queen of Summer was heading west, while the Queen of Winter was leading Orion and his bright-eyed hound toward the zenith. I regretted, the way we all regret in the north of Norway, that winter was coming. No, the water would not freeze, for the Gulf Stream kept our seas open. But how much easier to paddle a kayak in the summer, when sometimes just a bathing suit would do, than in the winter, when I had to bundle up with layers of wool and heavy mittens.

I pulled the kayak onto the dock and turned it over, in case of rain. Then I walked up the rocky path and the wooden steps to my dark cabin, its bright red during the day now deep black. The white trim was faintly visible in the starlight.

Inside, I turned on a few lights. I turned on my laptop as well, so it could warm up. I wanted to read the letter from Uncle Lars.

With a cup of hot cocoa, I sat at a wooden table, clicked on the email from Uncle Lars in the inbox, and read,

“My dearest family,

“I find myself in another world. Or rather, in two other worlds: the Arab world, and a war zone.

The Arab world is often mystifying, in part because I must depend entirely upon interpreters. The war zone is appalling; these people are fighting each other in a civil war, and the cruelty is barbaric. Of course, the weapons that they use are absolutely modern. We are all guilty.

“I send a picture of our medical tent. You will see the Turkish Red Crescent on the canvas roof. The Turks have done their best, under difficult conditions, with both equipment and pharmaceuticals. And the Turkish coffee is truly superb.

“I send as well a picture of the refugee camp. One ‘street’ can represent the dozens of such streets, with their dusty tents, aimless children, exhausted mothers.

“Despite these conditions, I have met some extraordinary people, both among my fellow physicians (from a half-dozen countries), and among the refugees from Syria, who do their best to make this camp something of a community. Perhaps next time I will send pictures of a few of the people. But for now, I am up to my elbows in nonstop surgeries.

“Any news about that hybrid engine you ordered for the *Laila*? You will be glad to know that we have wind turbines here, as well as solar panels. In that respect, we’re more modern than half the world.

“Love to all, from Lars”

Clicking on the first picture, I saw a large tent with a red crescent on its roof, and a throng of people around it. Several of the children wore bright T-shirts and sport pants, as if they had come from gym class. Most of the women wore black robes and held a child in their arms. Some of the older children carried plastic bottles, probably filled with water.

I would have liked a picture from *inside* the medical tent, perhaps with Uncle Lars himself at a surgery table.

Now I clicked on the second picture, of a street in the refugee camp. What struck me first was the multitude of people, some in clusters, some alone, standing about with nowhere to go. Pictures of a city street generally show people going somewhere: walking, driving, riding a bike. But the people who lived on this street were not going anywhere. They were waiting, they were lost.

The second thing that struck me was size of the refugee camp. In the picture’s dusty background were endless rows of tents. Thousands of people must live there. Perhaps tens of thousands.

I thought for a moment about writing back to Uncle Lars, for he had asked about the hybrid engine. But our adventures today seemed a bit inconsequential compared to what he was confronted with.

I thought that I might respond with some thoughts about his work in the refugee camp. But I wasn’t sure yet what I wanted to say. The second picture especially had been overwhelming.

So I turned off the laptop and went out on the dark porch where the stars shone overhead, the orange moon was nearly touching the parade of black islands to the west, and the water washed over the smooth rocks along the shore of my own little island.

What a strange planet this was. Melting at one end, bleeding at the other.

A deep sadness filled me, tinged with fear. Something so wrong could not continue forever.

I decided to bring my sleeping bag out on the porch, rather than sleep inside. Some kids need a teddy bear. I needed to look up at the stars. And to hear the water washing over the rocks.

Cesarean Birth

Chapter Eleven

Sometimes our lives leap forward in a matter of minutes. So it was on the night that I first witnessed a surgery. A special sort of surgery.

We were asleep in our tent on a cool night in early October—extra blankets had been issued to the refugees with the coming of autumn—when I heard someone waking up my mother. He was telling her that a woman had crossed the border in a truck, and that the “bottom was down, not the head.”

My mother asked, “The bottom is down?”

“Yes. She is in labor. She has been five hours in a truck.”

“Rashida.” My mother touched me gently. “We must tell Doctor Rosie that we have a breech delivery. We will need a surgeon.”

The three of us hurried beneath the stars to a field near the camp’s entrance where vehicles were parked. Mohammed guided us to a pick-up truck, where we found a woman curled up and groaning in the dusty bed of the truck, and a man kneeling beside her.

My mother climbed into the truck, asked the man a few questions, then felt the woman’s swollen abdomen with her hands. She said to me, “Yes, tell Doctor Rosie that we have advanced labor with a breech position. We will definitely need a surgeon.”

I ran to the doctors’ quarters in a cluster of small buildings where the Westerners lived. I was stopped and questioned by one of the guards. Doctor Rosie had given me a medical team identification card; the Turkish guard wrote down my name on his clipboard, looked at his watch, then noted the time.

With a nod, he pointed at one of the buildings. “Doctor Rose Ferguson, number fourteen.”

“*Shukran.*”

I knocked on the metal door with number 14 shining faintly in the starlight. I waited . . . then knocked more insistently. When the door opened, Doctor Rosie peered out in a bathrobe, not at all annoyed.

“Rashida, what is it?”

“Doctor Rosie, I am sorry to bother you. My mother is with a woman who just came into the camp. She is in advanced labor in the back of a truck. The fetus is in breech position. We will need a surgeon.”

“Meet me at the medical tent. I will awaken the others.”

Ready to translate whenever I was needed, I stood inside the medical tent in my blue *abaya* with a blue *hijab* over my hair, watching as Doctor Rosie and Doctor Jacobsen, the Norwegian surgeon, hurried into the tent. They were followed by another doctor, a new arrival, with whom I had not yet worked.

Doctor Rosie asked me to lead her—along with two men on the night staff with a stretcher—to the truck. As we hurried beneath the stars, we could hear the woman shrieking.

Doctor Rosie and I climbed into the truck together. My mother greeted us with relief. The man stood up to make room for us as we knelt beside the woman, thrashing with pain.

I translated as Doctor Rosie conferred with my mother. Doctor Rosie reached into the woman’s *abaya* and felt her abdomen. She put on her stethoscope and listened first to the woman’s heart, then to the heart of the fetus.

“Your heart is strong,” she said to the woman. I translated to the moaning woman, who may or may not have heard us.

Doctor Rosie said, “The heart of your baby is strong.”

Then she looked up at the man, her worried face faintly lit by starlight, his face utterly black as he looked down at her. “Are you the husband?”

“Yes.”

“We must perform surgery on your wife. This is not dangerous, but absolutely necessary. Do you give us your consent?”

“Yes.” There was no hesitation in his voice.

“Please come with us into the medical tent.”

“Yes.”

Doctor Rosie and my mother lifted the woman onto the stretcher, then the four of us followed the two stretcher carriers as they walked at a quick and well practiced pace with the woman whose wail of pain reached up to the stars.

The woman was carried directly to a tent within the medical tent: the smaller tent was a field hospital, well equipped, with filtered air blown in through a hose from a fan. While Doctor Jacobsen examined her, he conferred with Doctor Rosie and Doctor Bassam Ayyesh, a Syrian-born doctor who had just come from Brooklyn in America. I stood with my mother. Perhaps we were no longer useful. Perhaps the Westerners would take over now.

“*Ja*,” said Doctor Jacobsen, turning to my mother. “Zainab, you have done excellent work, in alerting us, and in monitoring the patient.”

I translated for my mother, who was a bit surprised at this praise.

“I was doing my job,” she told him.

“*Ja*. I would like you and Rashida to scrub with us, then assist in the delivery.” Now we were both surprised.

“Zainab, we will cut the umbilical cord and pass the baby to you. You must suction the mouth and nose, then monitor the breathing. Wash and dry the baby, then wrap it in a blanket. You will find everything you need at the neonatal station.” He nodded at a table near the operating table, with instruments on it familiar to my mother.

“*Na’m*.” My mother was very glad to be included.

Then Doctor Jacobsen looked at me. “Rashida, I will explain what I am doing during the surgery. I would like you to explain what is happening to the woman and her husband. We need their confidence.”

“Yes,” I said. I had just been invited to attend my first surgery.

In a corner of the large medical tent, Doctor Rosie, my mother and I, and the husband named Nazir washed our hands and faces, then put on blue surgery gowns and caps. Before we entered the surgery tent, we put on as well the blue surgery masks. Now the faces of both women and men were covered, as well as the hair, leaving all expression in the eyes. As an Arab woman who often spoke with women who wore a *niqab* below their eyes, I could read those eyes extremely well.

The woman, Haleema, lay beneath a blue drape, her head on a pillow. She was calm now, no longer in pain. Doctor Jacobsen asked me to explain to Nazir, who was holding his wife’s hand, that Haleema had been given an epidural—a regional anesthetic injected near the spine—to numb all pain in the lower body.

“*Shukran*,” said Nazir, enormously relieved that his wife was out of pain.

A blue wall of drapery had been placed across the bed above Haleema’s chest, so that she could not watch the surgery. I stood beside Doctor Jacobsen, where I would be able to watch the surgery in every detail.

Doctor Rosie stood across the surgery table from Doctor Jacobsen. Beside them both were tables with a multitude of surgical instruments.

Doctor Ayyesh checked the intravenous tube that was taped to Haleema's hand. Then he adjusted the monitor on her abdomen while he watched an electronic graph of fetal heartbeats on a screen.

My mother stood beside Doctor Rosie. My mother was watching me. With all that was going on, my mother was watching me. I gave her a confident nod.

"Now Haleema and Nazir," said Doctor Jacobsen, "we are ready to begin."

"*Al-hamdullah*," said Nazir.

Haleema closed her eyes with perhaps a silent prayer.

Doctor Jacobsen lifted a blue cloth from Haleema's abdomen, revealing a taut mound of orange skin framed by a blue drape. "The orange," said Doctor Jacobsen to me, "is an iodine antiseptic."

Then he said in a louder voice, for Haleema and Nazir to hear, "I shall make a horizontal cut about fifteen centimeters long near the base of the abdomen."

He paused, nodding that I should translate. Haleema's eyes were open now; she was listening as I translated the clear statement.

Doctor Jacobsen continued, "I shall cut through a layer of fat tissue, though as I see you are very trim."

Nazir's eyes brightened with a smile.

"I shall part the abdominal muscles with as little cutting as possible. I will cut the peritoneum, a sack around the inner organs. Then I shall cut through the wall of your uterus, with an incision long enough that my hand may reach in, and your baby may come out."

I could see now in Haleema's dark eyes a gathering strength. The truck ride was over. The pain was gone. She had just heard the doctor say that her baby would soon be out. She said quietly, "*Inshallah*." God willing.

"Zainab will wash your baby, wrap it in a blanket, and place it on your chest. You may hold your baby with one hand, and you may nurse it."

"*Inshalla*." Haleema closed her eyes. Nazir squeezed her hand.

Doctor Jacobsen looked at me, standing beside him, his blue eyes calm and assured. "Rashida, I will explain to you what I am doing. You do not need to translate unless I ask you to. Primarily, I want you to watch."

"Thank you, Doctor Jacobsen." If I had put a stethoscope on my own heart, I would have heard it racing.

He picked up a scalpel from the instrument table, touched the orange skin below the bellybutton with his gloved fingertips, then drew the knife through the skin in a straight horizontal incision, leaving a line of seeping red blood.

He cut through a thin layer of fatty tissue.

"Now here," he said to me, "we must be careful. We want to do as little damage to the muscle as possible." His fingers probed and shifted layers of muscle.

Doctor Rosie was now sucking away blood and fluids with a suction hose.

Doctor Ayyesh "cauterized" small blood vessels, sealing them with an electrical instrument that heated and burned their ends. I could smell burning flesh.

The hands of the three doctors worked deftly together. They spoke to each other quietly through their masks, a word, a phrase, while their gloved hands cut and swabbed and cauterized.

"Now," said Doctor Jacobsen to me, "we cut through the peritoneum, the sack which holds the interior organs."

Leaning forward a bit, I watched him cut through the thin lining. When his fingers drew the cut open, revealing a mass of dark muscle, he said, "The uterus."

It was one thing to talk about the womb with my mother, a midwife. It was something very different to actually see one now. Here was the cradle where Allah made a child.

Here was the little fortress that protected the egg, the embryo and the fetus for nine months against the dangers of the outside world.

Dangers such as the artillery shells and the chaos of war.

Doctor Jacobsen worked his hand around the uterus, feeling the fetus inside.

"Breech, Miss Rosie," he said to Doctor Rosie with a smile in his eyes.

"Aye," she said, "coming rump first, it is."

He withdrew his hand and shifted the uterus slightly. Then he made the first of several delicate incisions.

Suddenly a clear fluid poured out. "Amniotic fluid," he said. Doctor Rosie maneuvered her suction hose with one hand and swabbed with the other.

Cutting with gentle precision, Doctor Jacobsen lengthened the opening into the uterus. "There's the head," he told me, "with hair already."

Yes, I could see the head, wet, wrinkled, with black hair.

He raised his voice, "Haleema, we see the head of your child. We are making excellent progress."

Wife and husband, mother and father, said together, "*Al-hamdullah.*"

"Doctor Ferguson, will you assist please with a bit of a push on the rump."

Doctor Rosie placed her hand on the rounded bottom of Haleema's abdomen.

I watched, utterly entranced, as Doctor Jacobsen now reached into the uterus, wrapped his fingers around the head, then said quietly, "A push, please."

As Doctor Rosie pushed on the lower end of the uterus, Doctor Jacobsen lifted the head out of the uterus. There was the face, moving, alive.

"Posterior shoulder," he said, lifting one shoulder free. "Anterior shoulder."

And then, with no further impediment, he lifted the entire child out of the uterus. "A girl!" he announced.

We heard Nazir say with a firm voice the first words that every Muslim newborn hears, "*Illa ha il Allah, wa Mohammed rasool Allah.*" There is one God and he is Allah, and Mohammed is his prophet.

Doctor Jacobsen held the bloody infant by her ankles while Doctor Rosie inserted a narrow suction tube into the mouth and nose.

Now we heard a sound that I had heard many times before while working with my mother, but which was nevertheless a great miracle each time: the healthy wailing of a child that was alive.

Doctor Rosie clamped the umbilical cord, then cut it.

Doctor Jacobsen held the child horizontally in both hands above the blue divider, so that Haleema could see her baby. "Here is your little girl."

With exhausted eyes and a smile of triumph, Haleema stared at the child that might well have died in the back of a truck. The two of them might have died there.

Doctor Jacobsen now passed the infant to my mother, who carried her to the neonatal table in a corner of the surgery tent. I watched my mother as her skilled hands washed the squalling, kicking infant. She examined the child thoroughly, hands and feet, arms and legs, eyes and mouth and ears.

Then she dried the infant, wrapped it in a blue blanket and placed it on Haleema's chest. Haleema let go of Nazir's hand and wrapped her arm around her newborn daughter.

“You may nurse her,” said Doctor Jacobsen.

The wailing ceased as the child sucked peacefully on her mother’s nipple.

Nazir touched the bundled child and said over and over, “*Al-hamdullah, Al-hamdullah.*” Thus was the little girl blessed by prayers from her grateful father.

“Now,” said Doctor Jacobsen to me, “the long process begins of repairing with sutures all of the incisions we have made.”

In a louder voice, he said, “Haleema, now we are going to sew you back together. This will take much longer, almost an hour.” He paused, then asked, “Does your daughter have a name yet?”

I listened to Haleema’s weak yet proud voice while she stared at her nursing child. Then I translated for Doctor Jacobsen and Doctor Rosie, “Haleema said, ‘I am calling her my Fighting Tiger.’”

“Exactly,” said Doctor Rosie with a laugh. “Your daughter is a fighter.”

Doctor Jacobsen turned his attention to the surgical implements on the table beside him. He handed me something that looked like a spoon with its lip curled over. “Rashida, we need your help with a retractor.” He hooked the lip beneath the skin above the first incision and then gently pulled on the retractor, drawing the skin back and thus giving him room to work on the inner layers.

I took the retractor in my hand and held it exactly where he had held it, my first surgical maneuver.

I watched as Doctor Jacobsen worked a curved needle—about three-quarters of a circle—through the inner muscle of the uterus, then drew taut stitch after stitch of surgical thread. Doctor Rosie applied her suction tube, so that the tissue he bound together was free of blood and fluids.

Doctor Jacobsen stitched the outer muscle of the uterus: two rows of sutures would prevent any weakness during a future pregnancy.

Then he stitched, with a different needle, the peritoneum, thus enclosing the inner organs in their protective sack.

He repaired spots of damage to the abdominal muscles.

Finally, again with a different needle, he stitched the skin together from one end of the fifteen centimeter incision to the other. The doors had been opened. The miracle had been performed. Now the doors were carefully closed.

He placed a bandage over the sutures. “Haleema, we have finished sewing you back together. You will be sore down there tomorrow, but do not worry. Everything is fine.”

“*Shukran. Shukran.*”

He laid a blue drape over the bandage, then took down the blue partition, so that Haleema could see herself down to her feet, entirely covered with blue.

Doctor Ayyesh now said, “Haleema and Nazir, I am Doctor Bassam Ayyesh. I will be your physician during the next week, while you recuperate.”

As doctor Ayyesh spoke with the new parents, who would be moving to the in-patient corner of the medical tent, Doctor Jacobsen and Doctor Rosie slipped out the door of the surgical tent. My mother and I followed them.

Peeling off his gloves, Doctor Jacobsen asked, “Would you three do me the honor of joining me for a cup of tea?”

And so we sat together at the table behind a blue drapery where during the day the doctors had lunch and drank strong coffee, and where now we drank a tea to help us sleep, while we feasted—we

were all enormously hungry—on bread with apricot jam.

Doctor Rosie looked at me with her green eyes and said, “You’re a trooper, you are, Lass.”

Doctor Jacobsen looked at me with his light blue eyes.

“Rashida,” he said, “even if peace should come to Syria tomorrow, it’s going to be a long time before the schools are functioning again.”

I sipped my tea.

“You are sixteen now?”

“Yes.”

“Two, three years of high school. Four years at a university. Four more years in medical school. And then you could return to your Syria and really do something.”

I looked at his blue eyes: he meant every word that he was saying.

I looked at my mother.

She nodded. “*Na’m*. She must have the best education.”

I translated, “Yes, she must have the best education.”

Then I sipped my tea.

“I do not know yet what might be arranged for you in Norway. We do take in qualified students for several years of study, then they return to their home countries. It can be a bit bureaucratic, with quotas and all, but we might try.”

Now he turned to my mother. “Given that you are a family of three in a refugee camp with a war going on, we could apply for you as a family. You and your son would accompany Rashida. You, Zainab, would prosper as a student in a school of midwifery. First we teach you some Norwegian, then we develop your skills, so that *you* can be a teacher when you go home to Syria.”

My mother had not anticipated this. I myself had only dreamed.

“And your son . . . what is his name?”

My mother said, “Wasim. He takes an evening class in mathematics with a teacher from Turkey. The teacher speaks very highly of him.”

“*Ja*,” said Doctor Jacobsen. “Mathematics is an excellent field of study.”

Now Doctor Rosie said, “Rashida, I looked for a spot for you in Ireland, but our quotas are filled. Our bankers have robbed the economy and we can hardly help ourselves. But Norway, I have read, is a wonderful place.”

Doctor Jacobsen turned to me and asked, “May I file an application, on behalf of you and your family, for residence and study? I can not promise you anything, but we could at least try.”

At that moment, I could not have told you where Norway was on the map. It was somewhere in Europe. It was a Western country.

“Doctor Jacobsen, I would be very grateful if you would file an application. We would very much like to see your Norway.”

“*Ja*,” he said. “*Vi prøver*.”

Then he translated for me, “We try.”

Chapter Twelve

Yes, to become a surgeon, that was part of it.

But there was more.

I lay awake in bed several nights later, thinking. You see, the longer the war goes on, the more time a girl has to think.

My mother and brother and I—our little family—had talked about this possible trip to Norway. We of course did not want to leave our homeland, even in time of war. And we ached in our hearts to leave my father and brother, one dead and the other most probably dead. This was the hideous cruelty of war, to have people you love cut away from you as if by a jagged knife.

My mother said that Omar, our father, would want his children to have the best education. She said that for Ahmed, our brother, we must one day help to build a better Syria. My mother cried, but that was on the outside. On the inside, she was very strong.

My brother, Wasim, twelve years old, was determined, from the moment he learned about this possibility, to study mathematics and engineering in Norway. He had talked with his teacher, a Turkish engineer, about wind turbines in Turkey and solar panels in Morocco. Wasim was certain that he had found his career. His love for mathematics now had a purpose. As Wasim told us, “Mathematics is the language of engineering. I can speak mathematics in Norway.”

Wasim insisted that he be able to meet Doctor Jacobsen, so that he could explain to him *why* he wanted to study in Norway. “I would like,” said Wasim, “an interview with Doctor Jacobsen.” My brother, twelve years old, wanted an interview with a Norwegian surgeon.

“I will talk with Doctor Jacobsen,” I said. “Maybe you could join us at the end of the day for a cup of tea in the medical tent. He likes to sit with everybody and relax. Maybe you could talk with him then.”

Wasim nodded. “*Inshallah.*”

Everyone in the refugee camp knew that great numbers of refugees were pouring out of Syria into camps in Turkey, Iraq, Lebanon and Jordan. Over one hundred thousand people had fled the war since August. We knew that some of the refugees at a camp in Jordan had revolted against the conditions there. We knew that there were now thirteen refugee camps in Turkey, just across the border from Syria, and that some of the people in the nearby towns were angry at our presence. An artillery shell fired by the Syrian army crossed the border and landed on a house in one of the towns, killing the Turkish family inside.

We knew that during the last week of September, world leaders had met at the United Nations in New York. We knew from Aljazeera that they talked about the war in Syria. But both Russia and China blocked any real action. These two countries did not want to “interfere with another country’s internal affairs”, because—as we guessed—they did not want anyone to interfere with their *own* internal affairs. And so “the eighteen months of deadlock”, as an Aljazeera reporter called it—eighteen months of empty talk since the beginning of the war—simply continued.

Everyone in the refugee camp knew about the uproar in the Arab world over some American video that insulted Mohammed. Muslims marched in the streets of their cities and burned the American flag. We wondered why their reaction to the nightmare in Syria was so much less fierce. Where were the marches to demand a stop to the MiG jets with their bombs, and to the artillery that targets a shop selling bread, and to the schools turned into prisons, and to the torture of men like my father?

We Syrians felt very alone.

Everyone in the camp knew, from Aljazeera or simply from people pouring into the camp, that the *souk* in Aleppo had caught fire. The ancient market with hundreds of shops had caught fire from . . . no one knew. Perhaps an artillery shell, perhaps someone with a match. In 1986, ten years before I was born, the United Nations had declared our *souk* to be a World Heritage site: something precious from the past. And of course, all of the merchandise had been burned too.

Other news? Medical clinics and hospitals inside Syria were running out of everything. The government artillery targeted hospitals. Doctors ran a clinic in somebody's basement, with or without electricity. Diabetics ran out of medicine; first their blood pressure rose, then their kidneys failed, then they slowly died.

We had far better medical care in the refugee camp. We had supplies, and so far, no artillery shells.

So a girl could wonder, while her tent shook in the night wind, Why did people accept all this as somehow normal?

After the twentieth century, which, as I had learned in school, was the most violent century in all of human history, we began the twenty-first century with yet another war. I would like to ask: Why?

A girl could also wonder, Why do we allow half of the world's population to determine the fate of the other half? After all, it is the men who drag us into war after war.

Why are we so determined not to try something new?

People die because they run out of insulin—a slow, pointless, hideous death—while artillery fires endless volleys of shells. The world never runs out of weapons.

Why do we accept that as normal?

The longer I stayed in our dusty camp, the angrier I got.

My country was filled with the ruins of earlier civilizations. Tourists came by the busloads to look at fortresses and cities built thousands of years ago, all of them now ruins. Civilization took a step, then came a war; civilization took another step, then came another war.

What did they fight about? The trade routes between the Asian world to the east and the European world to the west. Or, these people hated those people, so they decided to kill each other. Or, drought parched the land, and people who had no water and no food fought with people who still had a river and irrigation and crops.

No war lacks for reasons to be fought.

And no war, I believe, has even one good reason to be fought.

So I thought that night about something which I had never been taught, either in the mosque or in school, but which came in the dark to my restless mind. It was an idea that seemed so simple.

We need a religion that does not look back to the past, but forward to the future. Instead of looking back at centuries of unrelenting wars and killings and schisms among embattled religions, let us look forward to a future that is free from the failings of the past.

What can we all agree on? That we love our children, and that our children need a clean, healthy Earth.

And that the Creator expected something better from us. Some steady progress, at least.

Isn't that enough? Couldn't we start with that?

If we do what is right for the children, and if we do what is right for the Earth, won't we thus be guided toward a far better world than this present mess?

A new religion was what I wanted to think about. Not just tonight while I lay awake in a tent that shuddered and rumbled in the desert wind, in a city of tents that shuddered and rumbled in the wind. As I grew up, as I studied and became a surgeon, I wanted to think about war, and about children, and about women, and about the Euphrates River that might slowly become dry because snow no longer fell on the mountains of Turkey.

I wanted to think about people who wore shackles which they themselves had fastened to their own feet.

Chapter Thirteen

I spoke with Doctor Jacobsen about Wasim's desire to explain, in person, why he wanted to study in Norway. Doctor Jacobsen readily agreed to meet my brother, and suggested that our family join him after work on Friday, October 5. We would have tea together and discuss our application as a family.

And so on Friday afternoon, after a day so long and difficult that it blended into all the other long and difficult days, I was sitting with Doctor Rosie, Doctor Ayyesh and Doctor Jacobsen at the table in the Doctors' Café, as we called it, when my mother peered around the edge of the blue surgical drapery that curtained the café from the rest of the medical tent. Doctor Rosie saw her and waved for her to come in.

"Zeinab, come, we need you. We are having an argument about tea. Which is older, Chinese tea, Indian tea, or Arabic tea?"

My mother stepped into the café, a professional among colleagues, followed by my brother Wasim, who was dressed in his one and only best shirt—he had worn it when we fled Aleppo—and his blue jeans. Wasim looked at me; I should now introduce him to Doctor Jacobsen. Then Wasim would speak, and I would translate.

My mother sat at the table. Wasim continued to stand.

I turned to Doctor Jacobsen, who was looking, with calm, appraising eyes at Wasim.

"Doctor Jacobsen, I would like to introduce my brother, Wasim. He watched very carefully the installation of the solar panels, and then of the wind turbines. When the engineers from Turkey strung lights throughout the camp, Wasim met an engineer who took him on as an apprentice. Wasim learned very much from this engineer."

I paused; I didn't want to rush everything into a jumble.

"The engineer had to leave when his job was finished, but he arranged for a teacher to visit the camp—a teacher from a school in a nearby town in Turkey—to give our young people a course in electrical engineering, and a second course in mathematics. We now have several teachers. Our little school is growing. But it is this one teacher, Hakan Baştürk, who guides Wasim into fields of mathematics far beyond what I have learned in school. I am sixteen, and Wasim is only twelve."

Again I paused. Wasim glanced at me, then continued to look at Doctor Jacobsen. He was waiting to speak.

"My mother and I have discussed with Wasim the possibility of travelling to Norway so that the three of us could study there. Wasim has come today so that he could express to you . . . *why* he would like to study mathematics and engineering in Norway."

"*Ja*," said Doctor Jacobsen with a welcoming nod. "Wasim, we are very glad to hear what you have to say."

Wasim's dark eyes hardened with determination as he said in Arabic, and I translated into English, "Doctor Jacobsen, I am Wasim Salama, youngest child of Omar and Zainab Salama. I am twelve years old, and should have begun sixth grade in Aleppo in September."

Now Wasim did something that perhaps only a child of war would do. I had seen it happen many times in the camp, and I had seen it in myself. The children often spoke with a maturity beyond their years. They had been so terrified, so bewildered by the sudden chaos of war, that they could never go back to their childhood innocence. At the same time, they tried to make sense of their lives. They tried to understand why a father would disappear, why a brother would disappear.

And thus children ten, twelve, fifteen years old spoke with a maturity far beyond that of ordinary children.

"I would like to tell you a story, Doctor Jacobsen, a story that has not ended yet."

I did not know what this story would be. My brother had not told us. We had spoken only about how I would introduce him.

“This is a story about knowledge, and the spreading of knowledge. This is a story about people who are very good students.”

He paused, then with a graceful sweep of his hand, he said, “A long time ago, a prophet named Mohammed lived in the Arabian desert for sixty-two years. He heard the voice of God, and he became God’s prophet. Part of this message was that the people, even poor people, must learn to read, so that they could read the Koran. The people of Islam were to be an *educated* people.”

Was I listening to my little brother, whose favorite activity at the school in Aleppo was football?

“Mohammed died in 632, but his message spread across many parts of the world. In 641, Muslim armies captured the great city of Alexandria in Egypt. Did they destroy the city? No. Instead, they explored the enormous library, where they found books filled with the wisdom of Greek scientists, Greek mathematicians, Greek doctors, Greek poets.

“The people of Islam translated these books into their own Arabic, so that libraries could be established in the growing Islamic world. I have read that in the library today in Fez, Morocco, you can find translations in Arabic of Aristotle and Plato, and even of your Christian Bible. For you see, the people of Islam were interested in all knowledge, no matter where it came from.”

I glanced at my mother. She was watching her son.

“The Muslim armies carried Islam across northern Africa, converting people along the way. In July of 711—only seventy years after the fruitful assimilation of Alexandria into the Muslim world—an army of seven thousand Berber tribesmen, who had converted to the Islamic faith, crossed the narrows at the western end of the Mediterranean Sea and took their faith to the southwestern corner of Europe. They called the fertile peninsula, where Spain and Portugal are located today, ‘Al Andalusia.’ They stayed for almost nine hundred years.”

Wasim smiled, the first smile I had seen from him today.

“And what did these ‘Moors’, as they were called, bring to Al Andalusia? Did they bring their swords, so they could slaughter the native peoples? Did they bring their axes, to cut down the olive trees? Did they burn people at the stake?

“No, they set up paper-making factories, thus bringing to Europe an art which the Arabs had learned in China. With their paper, they transferred Greek knowledge from Alexandria to newly founded libraries in Al Andalusia. They brought Aristotle and Plato to a Europe increasingly mired in the Dark Ages. They brought treatises on medicine, based on the original writings of Greek doctors, but with additional commentary by Arab surgeons. They brought the geography of Pythagoras, as well as a Greek instrument called an ‘astrolabe’, which enabled them to apply their geometry to the stars.”

“In Cordova, the Muslim capital of Al Andalusia, these books were kept in seventy libraries. No such collection existed in Paris at the time.

“The Moors were engineers who brought the art of irrigation with them. They also brought many new trees and fruits, such as the avocado and the orange. Water flowed not only through orchards, but through the towns and even through some of the houses. Cordova, a city of a hundred thousand people, had over three hundred public baths. Fountains graced many courtyards. Water flowed in channels beneath the city, carrying away the sewage. Cordova, in that respect alone, was far ahead of London.”

Wasim paused, his eyes relentlessly meeting the attentive gaze from Doctor Jacobsen.

“From the early years on the Arabian desert, caravans travelled at night in order to avoid the heat of the day. Arabs thus became highly skilled in navigating by the stars. The Greek astrolabe enabled Arabs of a later time to combine astronomy with mathematics. By viewing the stars, and by making certain

mathematical calculations, an architect building a mosque in Al Andalusia could calculate the exact direction toward Mecca . . . and thus the direction toward which to pray.

“Even today, a bright red star in the sky, the eye of Taurus the bull, is called by its Arabic name, ‘Aldebaran’, from *Al-Dabaran*, meaning ‘the follower’.

“Look for the ‘al-’ at the beginning of a scientific word, such as ‘algebra’ or ‘algorithm’ or ‘alchemy’, and you will know that the modern word came from Arabic.

“And of course: Arabic numerals. Even the Greeks were woefully behind in their rendition of numbers. Try to multiply CCCXCVII times XXXVIII. Not an easy task. But then try to multiply 397 times 38, and you can do it within a minute.

These simplified numbers were making their way north into Europe by the 1100s, where they were adopted by architects building new structures called cathedrals.

“One Arabic numeral was especially important: the *sifr*, or ‘cipher’, meaning ‘empty’. With this unprecedented ‘zero’, mathematics could explore new realms of thought. The Moors were innovative. The Moors were progressive. And the Moors were always willing to share their knowledge with visitors from the rest of Europe.”

Wasim paused, sadness in his eyes.

“We all know, of course, that the Christians drove the Muslims out of Al Andalusia, creating modern Spain and Portugal. Let us look at two Muslim cities and their very different fates when they were conquered by Christian armies.

“The city of Toledo passed from Muslim to Christian control in 1085, but Muslims were allowed to stay, mixing with populations of both Christians and Jews. The three religions worked together in translating many books. Scholars from the northern parts of Europe came to Toledo to study, and to take home with them books and treatises and their own greatly expanded knowledge. Aristotle and Plato, after residing in Toledo, made their way in a scholar’s baggage to a small town in England known as Oxford. There they flourished.

“On the other hand, when the city of Granada fell to the Christians in 1492, all of the books in the city libraries were burned. Every trace of the Moors was to be destroyed . . . except the architecture. The magnificent palace of the Alhambra was preserved, with its slender pillars and intricate arches. Queen Isabella and King Ferdinand, after casting out the Moors, and sending Columbus off on his expedition, were eventually buried in the Alhambra. Today, as I have read, thousands of tourists visit this palace in Granada, where they marvel at the beauty, the delicacy, and the *intelligence* of a building completed in 1391.

“One might think that a civilization which could construct such a building might have something of value in its libraries. But no, the books of Granada were burned.

“The Moors suffered the cruelties of the Inquisition, then they were expelled entirely in 1609. A quarter of a million refugees were forced to cross the sea to northern Africa. Those refugees had no medical tent, and no doctors, to welcome them.”

Wasim nodded his gratitude to Doctor Jacobsen, Doctor Rosie, and Doctor Ayyesh. Though he had never needed medical care in this tent, he was profoundly grateful for the work that they did here. And for the education which my mother and I had been offered here.

“I told you, Doctor Jacobsen, that this would be a story that has not yet ended. Because, you see, I am the next chapter. Me, and thousands of kids like me. I love mathematics. It’s in my blood. And now I understand how a mathematician can become an engineer, and how an engineer can design and build machines that provide clean energy for people around the world. You see, Doctor Jacobsen, clean energy makes sense to me. War does not.”

That was a twelve-year-old speaking, with anger in his eyes.

“I would very much like to study mathematics in Norway. I would like to study engineering. I would like to help build some of those new energy machines. And I would like to return to my Syria one day, as a teacher. Because I am but one, and there are thousands waiting to learn.”

Wasim was silent for a long moment.

Then he said, “Thank you, Doctor Jacobsen, for listening.”

Doctor Jacobsen stood up from his chair, walked around the table and reached out to shake Wasim’s hand. “It is I who thank you,” he said. “You give me hope. You give me hope.”

Doctor Ayyesh also stood and shook the hand of a young Syrian who would one day help to build a better country. Doctor Ayyesh was clearly very proud of this boy.

Of course, Doctor Rosie not only shook his hand, but gave him a kiss on his cheek. “Don’t you ever stop, lad. Don’t you ever stop.”

Doctor Jacobsen told us that he would write a strong application for our family. Perhaps he should include some pictures of the three of us. The process of evaluation in Oslo could take a while. Norwegians were sometimes like “elephants marching backwards” when it came to making a committee decision. Nevertheless, he thought that we had “a strong case” for an education in Norway.

He just so happened to have brought his camera with him, a large digital camera with a flash (not a little telephone camera). And so there in the Doctors’ Café, with the blue surgical drapery as a background, my mother and brother and I stood together—my mother between us with her arms around our shoulders—while Doctor Jacobsen took our picture. “This is a *portrait*,” he said. “This is history.”

Then he took a second picture, with Wasim, Doctor Rosie, my mother, Doctor Ayyesh, and myself, the five of us smiling with a happiness that burned deep inside us.

One of the stretcher carriers now took a picture of the six of us. Doctor Jacobsen stood with one arm around Wasim’s shoulders and one arm around my shoulders. We were the students that he hoped to send to Norway.

That was the portrait. Three doctors, from Ireland, Norway, and Syria by way of Brooklyn, and three refugees who had fled from a war, standing together, interwoven together, giving their absolute best to each other.

Every day, the war spat in the face of the Creator.

But on that day, Friday, October 5, 2012, in a medical tent in one of thirteen refugee camps on the Syrian border, I think that the Creator would have felt a degree of hope in his heart.

Chapter Fourteen

Sitting at a table inside Rorbu 16 on a Sunday afternoon of heavy rain, I stared at a picture on my laptop which Uncle Lars had emailed from the refugee camp. I had never seen my uncle look so proud, so confident, so happy.

In his letter, Uncle Lars described the five people with him, all six of them standing in a row in front of a blue background. From left to right, they were a refugee, a doctor, a refugee, a doctor, a refugee, and a doctor.

The first person on the left was Zainab Salama, a Syrian midwife with both a high level of medical skill, and a wisdom born of extensive experience with home deliveries. She was the mother of the girl and boy in the picture.

The second person was Dr. Bassam Ayyesh, a Syrian general practitioner who had been living in Brooklyn, and who, like many Syrians living abroad, had returned to his country in a time of civil war, so that he could somehow help.

The third person was a 12-year-old Syrian boy named Wasim, “who wants, Johan Erik, to become an electrical engineer so that he can build wind turbines.” Immediately interested, I studied the boy; he needed a haircut, his shirt was rumpled, but his eyes were definitely bright.

The fourth person was Uncle Lars, wearing a blue surgical shirt and trousers, standing with one arm around Wasim’s shoulders, and his other arm around the shoulders of Rashida, a girl of sixteen. Uncle Lars beamed a proud smile.

The fifth person was Rashida, who worked as a translator for the doctors. Uncle Lars wrote, “Her dream is to become a surgeon.”

I looked at Rashida, wearing the sort of robe that I had seen Arab women wear in pictures, though her robe was blue, not black. She wore a blue scarf as well, though she did not wear a veil over her face. Neither did her mother.

The sixth person was Doctor Rosie Flanagan, a heart specialist from Dublin. Uncle Lars wrote, “She is the strongest person I have ever met.”

As I sat back in my chair, looking at the six as a group, I felt a longing to be one of them. Four top professionals and two bright kids. I wanted to be on that team.

Uncle Lars continued in his letter, “I urge you, Johan Erik, to Google ‘Syria’, then click on Aljazeera in English. Watch the YouTubes, with headphones on if you can. You will be right in the war zone, in Aleppo, in Homs, in Damascus. You will hear gunshots and people shouting in Arabic. You will see where our refugees come from.”

And so I spent the remainder of the afternoon, while rain pounded on the windows and a fire burned in the stove, in a war zone. Young men with rifles, some of them wearing camouflage and some wearing a T-shirt and jeans, ran through streets filled with smoke and rubble. Frantic people tried to dig survivors out of the wreckage of what had been an apartment building. A little girl, four years old, had shrapnel in her spine; she was paralyzed from the waist down. A doctor who spoke English was running out of supplies; the electricity worked only sometimes.

This is what we were doing, while the polar ice cap melted. In fifty years, they will look back at this moment in human history with absolute outrage.

We are either at the end, or at the beginning. We are either at the end of a way of life that was now slowly self-destructing, or we are at the beginning of a way of life that was going to require a leap of intelligence.

We are either going to stop our madness in time, before the Big One, or the Big One is going to take over for a few centuries.

The Big One happens when our carbon dioxide pollution, blanketing the Earth as a greenhouse gas, warms the Earth sufficiently that the frozen tundra, wrapped like a ring around the northern portions of our planet, completely melts. First the polar ice cap melts, then the tundra melts, across Alaska, Canada, Scandinavia, and Russia.

And when the tundra melts, it will release ancient methane gas on a planetary scale. Methane is 25 times more potent than carbon dioxide as a greenhouse gas. And so the Earth will warm much more quickly, with a rise in temperature not of two degrees (which they say we can live with), but six degrees or more.

Methane is the Big One, for it will cause on planet Earth a fever that will do exactly what fevers do: kill off some invasive infection.

Methane is far more potent than carbon dioxide, but it breaks down in the atmosphere more quickly. Once the tundra has melted, releasing all its methane, the methane will blanket the Earth, then slowly dissipate. If the invasive infection is no longer burning coal and oil, the Earth can slowly return to its normal temperatures.

The fever is over; health returns.

But during that fever—here was the question that troubled me—how many refugees will there be? As the planet swelters, as drought sears the land decade after decade, as storms born over warm oceans ravage the coast, where are seven billion people going to go?

Will there be doctors waiting for them?

And what was a kid of sixteen supposed to do about all that?

Part Two

In the Cradle of Life

Notes from a Cold, Dark, Snowy Fishing Village

Chapter Fifteen

On Friday, December 21, 2012, the first day of winter, I stood with my mother and brother on the deck of a ship crossing the cold dark sea from the black mountains along the Norwegian coast behind us to the black mountains of a chain of islands ahead of us. We were above the polar circle, so that from the windows of the train this morning, and from the streets of the town of Bodø, and from the deck of the ship when we boarded, we saw no sun, only a glow of pale orange in the southern sky for a couple of hours at midday.

Now, at four in the afternoon, the winter stars were out, but they had all shifted to a different part of the sky from where they were in Syria.

Stars when there should be sunshine. And something else: something extraordinary, something baffling, but with a mysterious beauty. The three of us, along with Mette Thomsen, our escort from Oslo, stood on the broad rear deck of the ship with dozens of other passengers, sheltered from the sweep of freezing wind as we stared up at pulsing green ribbons that bloomed and arched and faded across the entire sky. “The northern lights,” explained Mette, almost as astonished as we were. “We never see them like this in Oslo.”

The green ribbons were just bright enough that I could see a faint green tinge on my mother’s uplifted face.

Where on Earth were we going? And when would the sun come back? (Mette, a bright and confident young woman from the Department of Immigration in Oslo—who was traveling with us to the port of Svolvær and then to our final destination, some tiny fishing village called Henningsvær—had told us that the sun would return on January 7, two and a half weeks from now, for a few minutes.)

We would be met at the wharf in Svolvær at nine in the evening by Doctor Jacobsen. He had emailed us that he was bringing his family. I was certain that they would be fine people, but could anyone in this dark, cold, foreign world understand who we were and where we were coming from?

These are the thoughts of a girl named Rashida, trying to be brave.

Inshallah. God willing.

* * *

I stood on the wharf beside Uncle Lars; we each held a bouquet of red roses. The whole family was there, all eight of us, something unusual, for even my mother and father had left the reception desk and restaurant for a while, so that we could meet these three people arriving from Syria. Uncle Lars spoke so highly of them. And we understood that we were taking on an unprecedented responsibility; never before had we hosted a family of refugees.

So we were all there on that cold December night—Uncle Lars and Aunt Louise, my father and my mother, my grandfather and grandmother, my younger brother Sigurd, and me—staring out at the coastal steamer, the *Nordnorge*, brightly lit beneath festoons of northern lights as it approached the port of Svolvær.

The four of us were walking with our luggage down the broad gangplank when I heard a voice call from the crowd on the wharf, “*Marhaba, Zainab! Marhaba, Wasim! Marhaba, Rashida! Ahan wa sahlān becom fe alnarweg!*”

It was the voice of Doctor Jacobsen, welcoming us to Norway. And now I spotted him, waving to us.

My mother said again and again, “*Al-hamdulla! Al-hamdulla! Al-hamdulla!*” Thank God.

Wasim called out, “Doctor Jacobsen! We are here!”

When we stepped from the gangplank to the trampled snow of the wharf, they more than greeted us: they wrapped their friendship around us and let us know that we were deeply welcome. Doctor Jacobsen gave a bouquet of red roses to my mother—the first bouquet of roses that she had ever received—while she smiled at him and cried at the same time. I had not seen my mother smile for weeks.

A boy who looked to be about Wasim’s age stepped forward and told us in English, “I am Seegurr, and this is for Wasim.” He handed Wasim a backpack, then lifted the flap and took out a book which he showed to my brother in the light of a streetlamp on the wharf. “Mathematics. Uncle Lars told us that you are very clever in mathematics. We are using this book in sixth grade this year.”

Wasim did not follow all of the boy’s English, but he understood immediately that his education in Norway was already beginning. “Thank you!” he said as he opened the book and looked at numbers and formulas that he recognized. “Thank you!”

And now an older boy stepped forward and said, “Rashida, I am Johan Erik. Uncle Lars has told us so much about your family. We are very glad that you will join us in our home.” Then he offered to me a bouquet of red roses.

I hesitated. An Arab girl does not accept flowers from a man she does not know. But of course my mother was right there watching, and she had *her* bouquet of roses. So I reached out—my hands were in warm gloves from Oslo—and accepted the beautiful red flowers that filled the cold night with their scent.

“Thank you, Johan Erik.”

He asked, “How do you say ‘You are welcome’ in Arabic?”

“*Al’afw.*”

He grinned. “All off.”

His eyes were intelligent, and kind, with a bit of humor.

Now we met everyone else, with their strange names. They shook hands with us, asked us if we were tired, picked up our bags. They greeted Mette, asked her questions in Norwegian.

Then Doctor Jacobsen led us to a white van parked nearby, with red letters painted along its side, HENNINGSVÆR RURBOER.

There was room inside for everyone, and for our luggage as well. Doctor Jacobsen sat beside my mother. I sat between his wife and his mother. Wasim sat between Sigurd and Mette. My mother looked over her shoulder and asked me to translate for her, that she was not so tired, that the trip on the train from Oslo had been very interesting, that Mette had been wonderful.

Now we all became quiet as the van, with Doctor Jacobsen’s brother driving, followed snowy streets through a town with modern buildings. Then we left the lights behind and entered a dark, snowy terrain with black mountains close and distant; pulsing green ribbons shimmered above their jagged peaks. We even drove in a tunnel through a mountain, a tunnel with lights, the first time that I had done such a thing.

Houses with amber windows stood back from the road on the dark lonely landscape. Sometimes we could glimpse the sea, and the lights of a boat out on the black water.

* * *



Northern lights over Henningsvær bridge. Photography by Vidar Lysvold.

The winding road suddenly departed from the land, rose up and over a bridge, then approached a long cluster of lights on an island. “Henningsvær,” called Doctor Jacobsen’s brother from the front of the van. “Almost home.”

The village was not on land beside the sea; it was out *in* the sea, wrapped by black water, as if the first storm might wash it away.

We drove among two-story houses, their lit windows covered with red and white curtains. Then we turned left and crossed a channel of water. Looking up the channel, I could see many boats along both sides, and large buildings like warehouses. Here was the wharf of the fishing village, nestled between two long islands, well protected from storms.

“Our fishing boat, the *Laila*,” said Doctor Jacobsen, pointing, “is moored in the harbor. Once you get settled, we’ll take you out for a day at sea.”

I translated for my mother, who said not a word.

On the second island, we turned to the right and drove a short distance toward what looked to be the tip of the island, with few houses. I could see, in a large open area ahead of us, tall rectangular frames made of poles, silhouetted against the veil of green northern lights. Doctor Jacobsen explained, “Those are the racks where we dry the cod in March.”

In the distance, beyond the cod racks, I could see a blinking lighthouse.

Now we parked in front of a two-story house, red with white trim, as I could see in the glow of the light by the door. “Here’s the Old Homestead,” said Doctor Jacobsen. “Here is where I grew up as a boy. And Sven too.” He peered up at the second floor. “You can sleep tonight with your window open and the breeze blowing in from the sea.”

I translated for my mother, who shook her head and said not a word.

When we got out of the van, I could hear waves washing against the nearby shore. Yes, I could hear the sea.

Doctor Jacobsen's mother said something to my mother in Norwegian, which he translated into English, and I translated into Arabic, "Welcome to our home."

"*Shukran*," said my mother, who had fled the war in Aleppo half a year ago, had lived in a tent with wind and dust for a blur of months, had traveled for the first time in her life in an airplane, had spent a week in Oslo, had spent a night and a day on a train, had crossed a dark sea on a ship under winter stars, and had now arrived at a place where finally, finally, she could rest.

When we entered the house, I could smell immediately: Arabic food, Arabic spices. My mother and Wasim both glanced at me, marveling at the kindness of these people in Norway.

In a large room with many chairs, we saw what we had already seen in Oslo: a Christmas tree with lights and little Norwegian flags. We knew that this religious holiday in Norway was four days away, on December 25.

We gave our bouquets of roses to Doctor Jacobsen's wife, who said she would put them into vases with water. The Norwegians took off their coats and hats and boots, and we did as well. Doctor Jacobsen's father gave us each a pair of slippers.

Then Doctor Jacobsen's mother led us up the stairs to the second floor, where she showed us three bedrooms, each with a beautiful quilt on the bed, and a desk, and a reading chair. Doctor Jacobsen and his father and Johan Erik brought up our luggage. "This was my room," said Doctor Jacobsen, "and now, Rashida, it shall be yours. The window looks south toward the lighthouse, and a door opens to a balcony facing east. Sleep with the window open so that you can breathe the air from the sea."

Then our great friend did something that truly put our feet on the ground of home. He pointed at a small piece of paper on a bedroom wall, to the left of the window facing south, on which he had drawn the Islamic star and crescent. "If you stand in the middle of your room," he said to me, "and face that direction, you will be facing Mecca." He waited for me to translate, then he said to my mother and to Wasim, "You each have a star and crescent in your room."

My mother stared at her host, her eyes filled with deep gratitude. "*Shukran*, Doctor Jacobsen."

He explained, "I phoned an Arabic grocery store in Oslo. I gave him our location in the Lofoten Islands, and very quickly, he calculated the exact angle toward Mecca."

We inspected Wasim's room, ("Sven's old room") with a window facing south (like mine), and a door opening to a balcony facing west. A small piece of paper with the star and crescent was tacked to the southern wall.

Wasim put his new backpack on his bed, and his book of mathematics on his desk. There he discovered a sheet of paper with everyone's name on it; we each had this list on our desk, and carried it with us for several days.

Now we inspected my mother's room, with a door that opened to a balcony facing west, "toward the village," and a window looking north, "toward our mountains, as you will see in the morning." A star and crescent were tacked on the southern wall over a bookcase.

My mother swept her hand over the colorful quilt on the bed, then she looked at me with more life in her face than I had seen in months.

She turned to Doctor Jacobsen's mother. "*Men fathleki. Ma esmouki?*"

I translated, "Excuse me. What is your name?"

Doctor Jacobsen translated into Norwegian for his mother. She smiled, and I knew that she was not at all disturbed by Arabic in her home. "Laila. My name is Laila."

My mother took her hand. "*Laila, anti lateefa.*" You are very kind.

We then inspected a fourth room, “My old sewing room,” said Laila, “but now our classroom. Here we shall have our lessons in Norwegian.” We saw three small tables for the three students, with workbooks on them, and a fourth table for the teacher, with a Norwegian/Arabic dictionary. On the wall were maps of Syria, Norway, and the world. I marveled at how well they had prepared for our arrival.

Johan Erik, silent all this time, now said to my mother, speaking English so that I could translate, “We would like to invite you to dinner. We hope that perhaps you will recognize what is on your plate.”

And so we went back downstairs and gathered around a large table in the dining room, with our roses in two white vases standing between three red candles. We were twelve altogether, with Laila at one end of the table and her husband Olav at the other end. (I had the list of names in my lap.) Doctor Jacobsen, who asked me while coming down the stairs to call him “Lars”, as well as his wife Louise, disappeared into the kitchen. Johan Erik, after holding the chair for my mother as she sat down, also disappeared into the kitchen.

I could smell *baharat mschakale*, the signature spice of Syrian food, but I was overwhelmed—almost in tears—when Lars came through the door from the kitchen with a glass tray filled with *kebab karaz*, lamb meatballs, a specialty from Aleppo. Louise followed with a platter of *kibbeh*, puffy balls of bulgur and minced lamb, also a specialty of Aleppo. Johan Erik, with his alert blue eyes and the bearing of a professional waiter, set upon the table a plate of dried apricots.

My mother, Wasim and I looked at each other. We had not eaten such a meal since . . . since before my father left his vegetable shop in the *souk* and joined the Free Syrian Army. Ahmed had disappeared shortly thereafter, with his telephone camera. Placed in front of us was a meal from peace time, which seemed like years ago. Could we eat such a meal, without Omar, without Ahmed?

My mother understood my silent question. She said quietly to me and to Wasim, “Eat, my children. Your father would want it so.”

Lars and Johan Erik returned from the kitchen with glasses of mint lemonade. Louise brought a platter heaped with flat bread. Then they sat at the table, and we were twelve. The Norwegians held the hands of those beside them; we readily joined them, linking all the way around the table. Lars said to me, “Rashida, perhaps your mother would like to say some prayer before the meal.”

I asked my mother if she would like to say a prayer.

She looked at me, surprised, unsure what to say. Then she looked around the table at people whose names she barely knew, but whom she had already taken into her heart. “I thank you,” she said, and I translated, “for opening your home to us.” She paused, then she added, “We come from a war in Syria. Let us hope that someday the peace that we find in Norway . . . shall bless the entire world.”

I heard Lars say, “Amen.”

And then we began our Syrian banquet. As we passed around the platter of flat bread, I asked Lars how he had managed to prepare such a meal.

“I phoned a Syrian restaurant in Oslo,” he explained. “The fellow sent us all the ingredients, as well as a stained and battered cookbook in English. So we did our best. But we await the real masters to take over the kitchen.”

I translated for my mother.

“Ah!” she exclaimed. She would be very glad to make a dinner for them. But—and this was her first joke in at least a year—she knew nothing about codfish.

Dinner was followed by *taj al-malek*, a pastry filled with pistachio, and cups of Arabic coffee. Lars asked my mother if she could sleep after coffee. She replied that she was ready to sleep for three

days.

It was true. I felt an enormous tiredness. Even Wasim, across the table from me, was falling asleep in his chair.

We did not protest when Laila suggested that she accompany us up to our rooms. Lars handed a vase of roses to my mother. As Johan Erik handed a vase of roses to me, he said, "Good night, Rashida. Sleep with the window open and you will hear the sea."

Upstairs, after we had said good night to Laila, the three of us gathered in my mother's room. We closed the door, turned toward Mecca and said our prayers, remembering Omar and Ahmed.

Then Wasim and I gave our mother a hug, and went to our rooms. I opened the window, heard the sea outside and felt the cold air on my face. The bed was heaped with blankets, including one that was thick but very light, perhaps filled with feathers. As I snuggled beneath the covers, I felt the most delicious feeling of comfort.

Yes, I could hear the sea, and smell the sea, and almost taste the sea. And I could smell as well the scent of red roses, from the boy with blue eyes. Intelligent eyes, watchful eyes.

And the resemblance was clear: Johan Erik was tall and slender like his father, but he had his uncle's handsome face.

Breathing cold air from the sea, breathing the scent of roses . . . I slept.

Chapter Sixteen

The following day, at about ten in the morning, when the darkness of night gave way to a dim glow of daylight through low heavy clouds, Johan Erik and Sigurd came to fetch the three of us for a walk through the village. Well rested, and filled with Laila's Norwegian breakfast of oatmeal, pickled herring and coffee, we dressed for a day outside. I no longer wore my blue *abaya*, which now hung in my closet. Instead, I wore the warm woolen sweater which I had been given during our orientation week in Oslo—I was able to choose the color, blue—and dark woolen trousers, woolen socks, and warm leather boots. I felt like a character in a story, a character who transforms into someone new, while remaining, hidden inside, her former self.

Over this inner outfit of wool, we put on our down coats and wool hats and warm gloves, until we were “ready,” as Wasim laughed, “for the North Pole.”

Johan Erik, Sigurd and Laila watched with approval, then the boys led us out the door into the cold gray world outside.



Rashida's red house (on right) near cod racks and Henningsvær harbor.

We walked a short distance to a snowy field filled with rectangular racks made of bare poles. Each rack was about three meters tall, like the skeleton of some primitive building which people might cover with the hides of white bears and wolves.

Johan Erik told us, “In February, great numbers of codfish swim from the Barents Sea north of Russia

to the waters around the Lofoten Islands, where they spawn. And great numbers of fishermen migrate here as well. We will go out on my grandfather's boat, the *Laila*, so that you can fish with a line that you hold in your hand."

I translated for my mother, who marveled that she would soon be out on a boat, catching fish with a line that she held in her hand. Wasim did not need my translation; he and Sigurd discussed the fish racks between themselves in English.

Johan Erik continued, "Some of the cod that the fishermen catch are shipped fresh on ice to restaurants in Norway. Some are frozen. And some are hung in pairs by their tails from those racks, so that they dry in the wind. Drying preserves the meat. People in the Lofoten Islands have been drying cod on racks for at least a thousand years."

Johan Erik spoke as if a thousand years was a great stretch of time. In Syria, we reached back seven thousand years, and we had the ruins to prove it.

Leaving the snowy field and empty racks, we walked into the village of Henningsvær. We followed a snowy street between houses of many colors—red, yellow, green, blue, white—some with Christmas lights in their windows. We were walking toward, at the far end of the village, several jagged mountains in a row—white with snow and black with rock—mountains that disappeared into low gray clouds.

I asked Johan Erik, "Are those mountains on your island?"

"No, they're on a much larger island. We drove past them last night. You wait. Soon they'll become your friends."

Following now a lane to the left, we came to a wooden wharf that fringed the long narrow harbor. Fishing boats were tied to the wharf, the bow of each boat nearly touching the stern of the next boat. I had come from the land of the desert to the land of the sea. White gulls sailed on their long pointed wings in the gray sky. And they stood in a row along the ridge of a red roof.



Henningsvær Harbor.

As we walked along the wharf, Johan Erik called to men working on their boats. They called back, then after a brief conversation, he introduced us to the fishermen. They welcomed us to Henningsvær. We nodded and said, “Thank you.” This was not a city like Aleppo, where one passed a multitude of strangers on the streets. Here, everyone probably knew just about everyone. Which would soon include us.

Two-thirds of the way along the harbor, Johan Erik pointed across the dull gray channel and said proudly, “There’s the *Laila*.” We looked at a boat moored to the opposite wharf, a boat similar to the other fishing boats, except that it had a blue wind turbine spinning on a pole attached to the stern. “The *Laila* is the only boat in the harbor with an electric motor, powered by the wind. But you wait. Within ten years, almost every boat in Henningsvær harbor will have joined the twenty-first century.”

Wasim told Johan Erik about the wind turbines which had powered the lights in the refugee camp. He of course explained that he had helped the Turkish engineer to install the light bulbs in the streets.

“Good for you!” said Johan Erik with genuine praise.

I felt a stab of sadness, for Ahmed was not here to share in the friendship of boys on a Saturday morning. Only fourteen years old, his childhood had been shattered by the war. He had been so bright, and brave, taking his pictures of bodies strewn across a street so that the world could see what was happening in Aleppo. How much better, had he been able to take a picture of the first wind turbine on a

boat in Henningsvær's harbor. How much better, had he met Johan Erik, and heard those words of praise that bolstered Wasim's confidence.

Johan Erik now told us, "Sigurd and I live in the red house behind the *Laila*. It's an old warehouse that our parents bought and fixed up when we were little kids."

Yes, I could see that the red building across the water was not an ordinary house, but something larger, a big red box with two floors of modern windows, each framed with white trim, and a third-story window beneath the peak of the roof.

"The window on the second floor to the right is my bedroom window. Inside, everything is neat and well organized. The window on the left is Sigurd's bedroom window. Inside, everything is heaps of laundry and lost library books."

Sigurd made a rude noise.

Johan Erik laughed.

We continued along the wharf, walking toward the snowy mountains that disappeared into the low gray clouds, mountains that boys—and maybe a girl—could climb in the summertime. Mountains that had no use for the savagery of war. Mountains that stood shoulder to shoulder with a greater wisdom than most of us yet perceived.

At the far end of the harbor, Johan Erik pointed across the channel at a large red building which also seemed to have been a warehouse. "That's an art gallery, one of my favorite places in the whole world. You wouldn't believe it now, but when the sun comes back in the spring, low in the sky, it tinges the whole world up here with gold. Painters have come from all over Europe to try to replicate that special light."

"Gold?" I said, skeptical on a day of gray gloom.

"You wait," he said with a smile. "You wait until the magic begins."

Leaving the harbor, we followed a short alley to the road behind the hotels and warehouses on our side of the channel. Then we followed—with the mountains first to our left and then behind us—a road that led to another wharf, a wharf which wrapped around a fingertip of the island and faced the open sea.

A row of two-story buildings, red with white trim, also wrapped around the fingertip of the island. Doors on the lower level opened onto the wharf; doors on the upper level opened onto balconies.



Henningsvær Rorbuer.

Here, as Johan Erik explained, was the family business, *Henningsvær Rorbuer*, a dozen cabins where fishermen and tourists lodged, right on the water. A *rorbu* was an old name for a cabin used by fishermen; originally they had been built with logs, with the stomach of a halibut stretched over a window to let in some light.

Even on this day of low gray clouds, lit by a sun somewhere below the southern horizon, the red cabins proclaimed that they had evolved from those early log cabins into something not only civilized, but jubilant.

Johan Erik led us to a small red building with a white door, the Reception, where we found his father, Sven, “as always,” laughed Johan Erik, “on the telephone.” Sven waved to us, then indicated to Johan Erik that he needed to talk with him.

“Uh-oh,” said Johan Erik, “I’ve got to evacuate.”

When he was done on the phone, Sven said hello to us, marveled at the wonderful Syrian dinner last night, offered us a cup of coffee, then told Johan Erik that tourists were coming from the Netherlands to spend Christmas in Rorbu 16. He would have to move out this afternoon.

Sven asked, “How much firewood is on the island?”

“I’ll take out a load of wood. And I’ll split some kindling too.”

“Thanks.”

Johan Erik invited us to see his “sanctuary” on an island, a short trip by boat. Sigurd confirmed that it was a wonderful place to visit, well worth the trip.

We stopped at the restaurant next door, where Johan Erik's mother Berit was in the kitchen, looking through a cupboard and talking on the phone. She waved to us, but indicated that she was in the middle of a large order.

Back out on the wharf, Johan Erik led us to a ramp down to a floating dock with a small boat tied to it. While we waited, Sigurd fetched clean sheets from a rorbu beyond the restaurant, while Johan Erik fetched three armloads of firewood from a shed, which he placed in the bow of the boat.

He fetched as well five orange life jackets for the five of us.

Sigurd held my mother's hand as she stepped carefully into the boat, then he sat beside her. She looked up at me with a smile, ready for the next adventure. Again I felt a stab of sadness; Ahmed should be here to take a picture of his mother in her orange life jacket and green wool hat, full of courage.

The five of us fit comfortably on the seats of the little boat. It had an electric motor on the stern (powered by batteries but without a wind turbine). We headed out toward a dozen small islands scattered across the nearby sea, each island a patch of white with a black ring around it where the sea had washed away the snow, exposing the dark rock. Sigurd, on the front seat with my mother, pointed at one of the islands, a few hundred meters ahead of us; I could see a small red cabin on it.



Johan Erik's island sanctuary.

After a trip of less than five minutes, Johan Erik brought the boat beside another floating dock. He and Sigurd tied ropes from the stern and bow to cleats on the dock. The snow on the dock and up the

ramp to the little island was pocked with a multitude of footprints . . . made, as I understood, by the boy who used this cabin as his second home.

We all stepped carefully from the boat to the dock, adding our own footprints. A bird shrieked overhead; looking up, I saw a half dozen seagulls circling above us, their white wings cutting gracefully through the gray sky.

As we walked up the ramp—my mother, Wasim and I gripped the railing, whereas Sigurd and Johan Erik showed no concern that they might slip on the snow and end up in the cold black water—I wondered what sort of tourist would want to spend a religious holiday on an island where a hermit might live. In Syria, we gathered in a mosque; in Norway, people seemed to seek a remote spot in a tiny village, or traveling even further, on a speck of rock out in the sea.

We stepped carefully across a stretch of snowy rocks, climbed some wooden stairs and now stood on a wide porch that wrapped around the cabin. The porch was covered with footprints; Johan Erik clearly spent much of his time here outside, along the railing, looking out at the sea.

“You are welcome,” he said as he opened a sliding glass door and gestured for us to enter. Stomping the snow from our boots, we stepped inside a room entirely wrapped with wood—wooden floor, wooden walls, wooden ceiling. The many windows looked out on the sea. A wooden table was covered with papers, a laptop, a coffee cup. Just to the left of the door was an iron stove, with wood in a half-filled bin. I could see, on the other side of the room, behind a waist-high wooden wall, a little kitchen.

When Johan Erik turned on the lights, I noticed pictures, graphs and maps taped to one of the wooden walls. Looking around further, I discovered, taped to the opposite wall, a picture of the war in Aleppo that might have been taken by my brother Ahmed. I stared at a street filled with rubble and smoke and a burning car. Men with rifles were running. A body lay on a sidewalk.

Now my mother and Wasim stood beside me, staring at the photograph, my mother with her hands over her mouth. We looked at other pictures: of a mosque with a shattered stub of a minaret; of children staring out through a jagged hole in the wreckage of a building; of refugees laden with bags, walking on a road that stretched into the dusty distance. There were many pictures along the wall: of tents in a refugee camp, each with a dusty red crescent on its canvas roof; of people with tired eyes lined up to receive food and water; of a woman’s face, her dark eyes staring out over her black *niqab*, asking why the world had forgotten her.

A map of Syria was taped to the wooden wall; Aleppo was underlined with red. Our refugee camp across the border in Turkey was marked with red letters, CAMP.

I turned to Johan Erik, who was watching us. “Where did you get these pictures?”

“From Al Jazeera. I printed them.”

“But why . . . ?”

“Uncle Lars told me, while he was working in the refugee camp, to look at Al Jazeera. To look at the YouTubes from the war. He wanted me to understand where he was working. And where you would be coming from.”

My hands were trembling. Suddenly the war was with us again.

“Rashida,” said Johan Erik, “Zainab . . . Wasim . . . I would like very much to understand where you have come from. I would like to understand why . . . your people are fighting this war.”

I translated for my mother. She shook her head; I could see in her eyes the fear, the grief. The ghosts of Omar and Ahmed were with her again.

I told Johan Erik, “Not yet. Maybe someday.”

“All right. Then . . . why don’t you take off your coats and I’ll get a fire going.”

While he knelt in front of the black iron stove, opened its door and poked a steel rod at its ashes,

we took off our mittens and hats, but kept our coats on, for the house was cold. The three of us, with Sigurd, turned our backs on the war and crossed the room to look at the other set of pictures taped to a wooden wall.

Sigurd pointed, "That's the edge of the polar ice cap last August, where solid ice should be."

We looked at broken sheets of ice, with zigzagging channels of water between them, beneath a lilac-gray sky.

"Here," said Sigurd, pointing to an illustration of the top of the world, as if it were a photograph taken by a satellite, "you can see how much the polar ice cap has melted. The red line shows where it was in 1979, touching the coast of Russia. Now, as you can see by the white ice and blue water, the sea above Russia is open in the summer."

I read the caption, "Since 1979, almost half of the Polar Ice Cap has melted away."

"Last summer," said Johan Erik as he joined us, "the polar ice cap melted to its smallest size in recorded history. And it will *keep* melting, as long as we burn our coal and oil, and cut down the forests. We have no idea what the loss of that ice will mean to ocean currents, to climate and weather in the northern hemisphere, to rain and drought and food for seven billion people. We have no idea . . . what the world will be in fifty years."

He pointed at a picture of trees leaning at various angles, as if they had been falling but stopped part way down. "The tundra is thawing in Alaska. The trees are losing their grip on solid ground, and so they are slowly toppling over. But that's not the big problem. The *big* problem is the frozen methane in a ring of thawing tundra around the top of the world. That methane, released over the coming century into the atmosphere, will warm the Earth far more than carbon dioxide could ever do. Once again . . . we have no idea what the world will be in fifty years."

He pointed at a picture of fires burning across a broad area of flat, brownish-green land.

"Drought in Siberia during the summer of 2010, and again in 2012. The tundra dries, then lightning sets it on fire. The fires are not above ground, as with a forest fire, but underground, burning organic material that is many meters deep. Even planes dumping water cannot put out those fires." He paused. "We don't have to wait fifty years. It's already happening."

Moving along the wall, he pointed again and again. "Drought in Australia. Drought in Africa. Drought in the American Midwest. The price of corn goes up. People can't afford to eat. We have no idea what the world will be . . . in *twenty* years."

He slapped his hand on a picture of a huge, roughly circular cloud on the Atlantic Ocean, just touching the eastern coast of America. "Here is my favorite hurricane, Superstorm Sandy. The Big Girl finally woke up New York."

Further along the wall, he showed us charts of rising temperatures, rising concentrations of carbon dioxide in the atmosphere. "The Earth has a fever. Thousands of doctors have been telling us for thirty years that the Earth has a fever. Mother Earth has many children, but most of them seem to be . . . oblivious brats."

Stepping back from the wall, he looked at me with anger in his eyes. "This is our planet." He gestured toward the ice cap. "We are melting at one end." He reached his other hand toward the war on the opposite wall, "and bleeding at the other."

Then he shook his head with a sour laugh. "But the first order of business is to take all this down from the walls, change the sheets, tidy up the kitchen and get ready for Christmas."

"Johan Erik," I said, "you want us to explain our war to you. And we," I looked at my mother, at Wasim, "we want you to explain your methane and your hurricane to us. Because if you are right, our war is just a little war, compared to what is coming."

His eyes brightened. “Thank you, Rashida. Sigurd and I will *both* be glad to explain.”

“That’s right,” said Sigurd. “We’re studying the polar bears in school.”

“In our school in Aleppo,” I said, “we learned that if the snow stops falling on the mountains of Turkey, the Euphrates River will slowly dry up. Civilizations learned to irrigate beside the Euphrates, learned to build cities, learned to write, learned to calculate with numbers. If the river dries up . . . if the river dies . . . What happens to the Cradle of Civilization?”

He looked at me with gratitude, and the first early glimmer of friendship. I was glad that my mother was there, watching. She could explain, in her own way, to my father.

“Well,” said Johan Erik, “let me put another log on the fire, and then I’ve got to get to work.”

“Let us help,” said my mother, taking off her life jacket and coat in the warming room.

And so, with guidance from the two boys who knew the family business, we changed the sheets and tidied the kitchen and took down the pictures and swept the floor, so that everything would be ready when the tourists arrived for Christmas.

Chapter Seventeen

On Sunday, December 23, Uncle Lars took Rashida and Zainab to visit his hospital in Gravdal. Zainab had been a midwife in Syria; she wanted to study midwifery here in Norway, so that when she returned to Syria—after the war ended—she could take her new skills with her.

As a translator for Uncle Lars in the medical tent, Rashida had decided that she wanted to become, like him, a surgeon. She too would take her skills to Syria, once she had completed her education.

Uncle Lars wanted to show them the delivery ward at his hospital, and the surgery ward, and to introduce them to his colleagues. Sunday would be a quiet day. The doctors and nurses on duty would have time to talk with the guests from Syria.

Sigurd phoned his math teacher, who lived in the village of Rørvik, between Henningsvær and Gravdal, to ask if he might bring his new friend from Syria for a visit. He explained that Wasim spoke some English, and was clever in mathematics and would very much like to meet his future teacher.

The good-natured fellow said Yes, though he was probably in the middle of wrapping Christmas presents, or taking a Sunday nap on the couch.

So on the way to the hospital, Uncle Lars dropped the boys off in Rørvik, promising to pick them up at three o'clock that afternoon.

This was all quite extraordinary for Sigurd to do. Never before had he phoned a teacher, asking if he could drop by for a visit. Wasim's influence was quietly viewed by the family as highly welcome.

As for me, I spent Sunday helping my father by stocking the rorbuer with firewood, fixing a wobbly chair, and scrubbing away the mold on the walls of the bath house on the wharf. With barely a moment to moan and complain, I helped my mother in the restaurant, where some of the wine glasses were dusty and needed to be washed, the fireplace was full of ashes, a lamp flickered with a loose socket, and the milk machine leaked from a hole in the hose.

* * *

Monday, December 24, the day of Christmas Eve, was the first of four Mondays in a row that appeared with prominence during Rashida's initial month in Norway. We did not plan it that way, of course. But Monday after Monday, four in a row, carried us like four major strides toward a future that neither one of us could have anticipated.

On the afternoon of Christmas Eve, Uncle Lars and Aunt Louise visited Rashida and Zainab at Laila and Olav's house, where Laila was showing Rashida and Zainab how to make Norwegian Christmas cookies, "all seven varieties." Uncle Lars had brought his mobile telephone. He asked Rashida and Zainab to wipe the flour from their hands, then he phoned Doctor Rosie in Ireland. Rashida and Zainab were both in tears as they talked with their colleague from the refugee camp. Rashida laughed again and again, and Zainab, when it was her turn, spoke with a voice that was almost singing.

When Rashida took the phone again, she promised, Yes, she and her family would visit Ireland before they went home to Syria. Maybe in the spring.

On Christmas Eve, our combined families, eleven of us, attended the service in the Henningsvær

Kirke from seven to eight in the evening. Rashida and her mother had a long discussion during the afternoon (as my grandmother told me) about what to wear: Norwegian clothes, or their *abayas*. They were going to be in a Christian church. Could they pray to Allah in such a church? And if they did pray, shouldn't they be wearing their Muslim clothing?

In the end, they decided to wear their *abayas*—Rashida's was blue, her mother's was black—over warm Norwegian clothes. They would wear their *hijabs* as well over their hair. Yes, they would stand out as two Arab Muslims among Norwegian Christians, but far more important was to do what was right in the eyes of Allah.

Wasim had no such problem. As a boy, he could dress in his new Norwegian clothes, and would look little different from his friend Sigurd.

We all gathered at my grandparent's house on *Hellandsøya*, the eastern island of the twin parallel islands of Henningsvær, then we walked together in the light of streetlamps to the road that crossed the southern end of the harbor. This was a family tradition, and one of my earliest memories: crossing the dike on the way to church on Christmas Eve, and pausing with my family to look up the long, brightly lit harbor, with boats along both sides—some decorated with Christmas lights—and to look as well at the mountains looming in the distance, their snowy peaks pale white against the dark clouds.

On *Heimøya*, the western island, we followed *Dreyers gate* to *Kirkeveien* (Church Street), where we joined other families walking toward the village's little church. It stood near the southern end of the island, with a steep A-frame roof, and (so characteristic of Henningsvær) codfish racks in the fields behind it. It could seat about 250 people, half the population of our village; tonight it would be packed, with people standing along the sides and in the back.



Inside Henningsvær Church.

Greeting friends at the door, we kicked the snow from our boots and entered the church, smelling of candles and fresh flowers. We hung up our coats, then found a place (we had come early) about halfway down the aisle where the eleven of us could sit in a row of chairs. I had brought a small red Bible—the Norwegian Gideon’s Bible with both Norwegian and English on each page—so that Rashida could follow the readings. Thus she sat to my left in her blue scarf and *abaya*, with her mother sitting on her other side. Wasim of course sat beside Sigurd; the two had become inseparable.

The organ rumbled through an old Norwegian Christmas carol, then the minister welcomed us to “this sacred service on the night of our Savior’s nativity”.

While he continued, Rashida whispered to me, “What is ‘nativity’?”

“Nativity means ‘birth’. The birth of Jesus.”

“Thank you.”

She had several more questions as the service proceeded, especially during the minister’s reading of the Book of Luke in Norwegian, which she followed in the little red Bible in English.

“And she brought forth her firstborn son, and wrapped him in swaddling clothes, and laid him in a manger; because there was no room for them in the inn.”

Rashida asked, “What is a ‘manger’?”

“A trough, a long wooden box filled with food for cattle. Mary wrapped her baby in warm clothes, then laid him on the straw in a manger.” I pointed at the Nativity scene on the elevated altar beside the pulpit. “You can see a baby sleeping in a manger.”

She peered above the shoulders of the congregation at the scene with Mary and Joseph and their child, surrounded by cattle and sheep, shepherds, the three kings with their camels, and a host of elevated angels. Then Rashida explained to her mother what that was up front in the church.

The minister read to us about the shepherds and the angels. “And they came with haste, and found Mary, and Joseph, and the babe lying in the manger.”

These words too were part of my earliest memories from Christmas Eve.

The minister read to us, “But Mary kept all these things, and pondered them in her heart.”

Rashida asked me, “What is ‘pondered’?”

“To think deeply about something.”

“Thank you.”

While we sang the carols, interspersed throughout the service, I glanced at Zainab; she listened, attentive, apparently intrigued by this very different church service.

* * *

Following the benediction, people stood and greeted their friends. Several people greeted our guests from Syria and welcomed them to Henningsvær.

Zainab said to Rashida, and Rashida said to me, that her mother wanted to take a closer look at the Nativity scene. So while most people were moving toward the rear of the church, we walked up the aisle to the altar. Wasim and Sigurd came with us. So did Uncle Lars and Aunt Louise. The others in the family were talking with friends.

Zainab, Rashida and Wasim examined the figures in the Nativity. Wasim looked at his mother as he pointed, “Camels.”

She nodded.

Then she turned to me and said, with Rashida translating between us, “Your Jesus was born in a stable. A place with sheep and cattle and a donkey. And camels.”

“Yes. Mary and Joseph were not wealthy. Their child was born among poor people. The three kings,” I pointed at the figures bearing gifts, “came to this stable to honor the child. But the shepherds, well, they were poor people.”

“And where,” she asked, “was this stable?”

“In a town called Bethlehem. In a land that was called at the time, Palestine.”

“Palestine!” Her dark eyes sharpened as she looked at me. “What language did these shepherds speak?”

No one had ever asked me this question before. “Well, I’m not sure. Perhaps several languages. Hebrew, if they were Jewish shepherds. And Arabic, if they were Arabs.”

Uncle Lars added, “Jesus later spoke Aramaic. There was a mixture of languages back then.”

Zainab looked at me with . . . sadness, anger, hopelessness. “Today they would be killing each other.”

We all knew that in November, just weeks ago, the Palestinians in Gaza and the Israelis had fought for over a week, during one of the endlessly recurring outbreaks of violence. The Palestinians had fired rockets as far as Tel Aviv and Jerusalem, and the Israelis had fired missiles from their jets. Over a hundred people had been killed. The fighting had been covered daily by Norwegian radio and television; then there was a cease fire, and the news moved on to other things.

Rashida stared at her mother with a strange sense of urgency. She looked as if she wanted to speak, but she hesitated, her dark eyes struggling . . . until she announced in English in a bold clear voice, “I want a new religion.”

Silent for a long moment, as if gathering her courage, she turned to me and said, “I am a girl, sixteen years old, and I know that some would not want me to speak. But I look at your beautiful Nativity, with the ‘Prince of Peace,’ as your minister called him, a baby, a newborn, bringing from heaven the promise of peace. And yet, two thousand years later, we are still fighting our wars. Arab against Jew in Palestine. Arab against Arab in Syria. Christian against Christian, as I have learned in my history class, through World War One, and then World War Two. Sister Rosie told me that only recently did the Irish stop fighting with the Irish.

“I want a religion that does not look back at the old hatreds, but forward to a future when we work *together*,” she stared at me with the most determined eyes I had ever seen, “to stop your polar ice cap from melting. To stop the tundra fires in Russia. To stop the hurricanes and the drought.”

She looked at Uncle Lars, at her mother, then at me again. “I want a religion that honors the Earth which your Jehovah created, and our Allah created.

“I want a religion that asks us to honor the Creator . . . by taking care of his creation.

“*That* is the work which will bring us together as one people.

“That is the work which will give us a real future.

“That is the work which will guide us . . . toward both a healthy world, and an end to our bestial wars.

“Take care of Creation, and we will have peace.”

Uncle Lars added firmly, “And to that I say, Amen.”

Rashida was quiet as we all walked together to the home which her family now shared with our family. Quiet, and withdrawn.

The eleven of us drank tea and ate Christmas cookies in the dining room, but we opened no presents, as Norwegians usually do on Christmas Eve. (We did not want to oblige our guests to somehow find gifts for everyone in the family.)

We were not festive, for the war had joined us on that Christmas Eve.

When I put my coat on and said “Good night,” Rashida looked at me with dark eyes as mysterious as the midnight sky over Syria.

And yet—as I thought while walking with my mother and father and Sigurd along the snowy streets toward our home—for those few intense moments in the church, she had spoken directly to *me*. She had spoken as if someone inside her, some hidden but immensely powerful spirit, had spoken. It was the first time since she had arrived that she locked her eyes on mine . . . eyes that were fiercely determined.

She wanted “a religion that honors the Earth.” Nobody else had ever told me that. Out there on my little island, I was almost always alone. At school, I was “a bit special,” as I heard people say. Different. Odd. “Intense,” as my baffled ex-girlfriend had put it.

Rashida was an Arab girl who had come from a war in her country. She was a person from a different planet. And yet . . . she seemed to understand me better than anyone else.

Those were the thoughts which, as I walked through familiar streets toward the mountains in the distance, I pondered in my heart.

Chapter Eighteen



White restaurant and wharf at Henningsvær Rorbuer.

On Christmas Day, when the entire family gathered for dinner at the Old Homestead, my mother and father left shortly after dessert to return to work at the Rorbuer. Though they had a highly dependable crew of employees, headed by Ingvill in the office and Ulf in the restaurant, my parents seemed certain that cabins would collapse into the sea, the oven would explode with someone's dinner inside, and the guests would decide that next time they would all head south to the Canary Islands, if my mother and father were not there thirty-six hours a day attending to every detail.

When Zainab, who had been seated at the table beside my mother, understood, with an empty chair suddenly beside her, that Berit had gone back to work, she immediately offered to help. Thus half an hour later, after we had finished our bowls of cloudberry with cream and a second cup of coffee, I walked with Zainab and Rashida along very quiet streets—families were all at home, reading a new book, trying on a new sweater, or sleeping on the couch—to the restaurant. We found my mother filling a bowl on the buffet with fresh salad.

When my mother had a spare moment, Zainab explained, through Rashida, that she would like to help. Perhaps she could cook a Syrian dinner for the guests?

My mother hesitated; I knew that she did not like anyone back in the kitchen but Ulf and his highly trained crew. Yet she could hardly say no.

She led the three of us into the kitchen, where Ulf was cutting slices of reindeer meat. When she

explained Zainab's offer, Ulf's responded with his usual hearty sense of adventure.

"Of course! We can serve Zainab's Syrian dinner on New Year's Eve. Let our guests choose codfish, or *kufta*. And how about some Arab music?"

When Ulf spoke this one word of Arabic, *kufta*, Zainab's eyes lit with delight.

My mother worried, "Can you order the ingredients from Oslo? Will they get here on time? We have less than a week."

"Berit," laughed Ulf, "Zainab and I will fly to Oslo on a magic carpet. We will be back with everything from olives to pistachio nuts. Perhaps we could hire a belly dancer?"

"No, no!" protested my mother. "No belly dancer."

And so it was arranged, that Zainab would prepare a number of Syrian dishes which would be added to the menu on New Year's Eve. Rashida and Wasim would serve the dishes from the kitchen to the tables. Zainab was immensely pleased that her family could show their gratitude to our family by preparing a special holiday dinner.

* * *

During the busy afternoon before New Year's Eve (the second of the four Mondays), Ulf was in high spirits as he learned from "the master of Aleppo" all the secrets of Syrian cuisine. The restaurant was filled with the scent of new spices, greeting the customers as they walked in the door.

Zainab, dressed in her black *abaya* and *hijab*, worked beside Ulf in his white apron and chef's hat. She prepared a series of courses, with one main dish, so that the preparation and serving were simplified and efficient. First, she sent out to the tables a lentil and rice soup, *Shawrbat 'Adas Ma'a Ruzz*, a specialty of Aleppo, which Rashida in her blue *abaya*, and Wasim in a freshly ironed blue shirt, served in large tureens.

Then came another Aleppo specialty, bulgur and walnut salad, *Salatat Burghal wa Jawz*, flavored with pomegranate molasses, olive oil, lemon juice and cayenne.

And now the main course, barbequed meatballs with cherries, *Kufta Bil Karaz*, made in Aleppo with a bitter black cherry, but made in Norway with canned Norwegian cherries. The meatballs were made from lamb, with beaten eggs, breadcrumbs, onions and tomatoes, as well as Zainab's magical spices. Ulf was eating one of every five meatballs until she scolded him.

The Aleppine dinner was completed with a semolina dessert, *Maamuneeya*, made with fried wheat flour; cream was poured over the baked cake, then sprinkled with ground pistachio.

Several times during the evening, at the request of the restaurant's guests, Zainab emerged from the kitchen to acknowledge their applause. She went from table to table, where Rashida translated questions about ingredients and methods of cooking, which Zainab answered in hurried Arabic.

My mother was delighted. Early diners told other guests at the Rorbuer and in town about the special New Year's Eve banquet; the restaurant was filled right up to midnight. (Nobody counted how many spiced meatballs Zainab made that night.)

Uncle Lars and Aunt Louise of course had dinner at the restaurant, along with my grandfather and grandmother and Sigurd and me. Thus once again, all eleven of us were together.

The festivities paused at eight o'clock for the traditional New Year's Eve speech on television by King Harold. (A TV was mounted near the ceiling at one end of the restaurant.) All of Norway listened for half an hour to the thoughts of our honored king.

Toward midnight, the guests began putting on their coats and stepping outside to the wharf, in anticipation of the fireworks at twelve o'clock. This was a Norwegian tradition: skyrockets and firecrackers mark the beginning of the New Year. Every community, from Kristiansand in the south to

Hammerfest in the north, and a great many families at home or at their ski cabins in the mountains, light fireworks and wave blazing sparklers, all with loud cheers. Hurrah!

Ulf insisted that Zainab and her two children put on their coats and join the others outside on the wharf. Even my mother and father put on their coats and stood with the family in a crowd of people from half a dozen different countries on a gorgeous northern night. The stars were bright; people pointed at Orion, striding across the southern sky. The northern lights were lively tonight: green ribbons pulsed and faded above the peaks of our dark mountains. The dark sea stretched to the vast horizon . . . and washed against the pilings beneath the wharf. The air was cold, briny, wonderful.

And then . . . a thread of golden sparks rose from the southern tip of the island, and a loud “Bang!” filled the night.

Among the cheers of the spectators came a scream from Zainab. Her face was contorted with terror. She grabbed Rashida, looked frantically around her, calling, “Wasim! Wasim!” She pushed with her stumbling daughter through the crowd, looking for shelter. Of course we should have guessed. We should have warned her. She was back in the war and the bombs were falling on her world.

She would not listen to Rashida, trying desperately to explain . . . She would not listen to Wasim, who had joined them; she grabbed him with her other arm as she shrieked, “Omar! Omar!” People, no longer cheering, stared at her as they made room for this frantic woman to pass through.

My mother took Rashida’s arm and led them not back to the restaurant, but to the nearby door of the reception. My father held the door open. The eleven of us went inside. My father closed the door behind us.

The flash of the fireworks flickered through the windows. My mother turned Zainab so that her back was to the windows, then she held Zainab’s face with her hands and said very calmly, “Zainab, we are in Norway. There is no war here. We are in Norway. You are safe.” Rashida translated, her voice insistent.

I had never before seen my mother so strong, so commanding.

Zainab looked at her, and the terror subsided. When she began to cry, a loud wailing cry of grief, my mother reached beneath the arms that held the two children and hugged the woman in her black robe, her face pressed against Zainab’s face.

Rashida looked at me, her eyes asking me to understand.

Tonight, there was a war in Syria, as if on another planet. But it was on our planet. Even as we cheered and drank champagne.

And what was a sixteen-year-old kid supposed to do about that?

Chapter Nineteen



First glimpse of the sun in January. Photography by Vidar Lysvold.

On Monday, January 7, the arctic sun, as Mette had promised on the boat from Bodø to Svolvær, and as Johan Erik had confirmed during our first dark week in Henningsvær, would finally return.

Johan Erik and his grandfather Olav invited the three of us aboard their fishing boat, the *Laila*, so that we could see the sun when it first appeared in the south over the sea.

(The first day was actually Friday, January 4, when half of the sun would peek above the horizon for a few minutes. But the wind that day was too strong to take the boat out. Saturday and Sunday were cloudy. And thus Monday, January 7, a day with light winds and a clear sky, was the day when we wore wool sweaters and down coats, wool hats and scarves and mittens, as we boarded the 10-meter fishing boat with its nets stowed, its stern deck cleared, and its blue wind turbine spinning quietly in the breeze.)

Sigurd came with us. He and Wasim were by now speaking a mixture of part English and increasingly part Norwegian.

Laila came as well. She and my mother had prepared a Norwegian-Syrian picnic.

The eighth member of our group was a German woman named Heike Vester, who had lived in Henningsvær for several years while she did research on the whales that visited the sea around the Lofoten Islands. She recorded their voices underwater and then analyzed “what they are saying to each other.” When she boarded the *Laila* on Monday morning, she brought her equipment, which included a hydrophone that she would lower into the water, and headphones, so that if we did find any whales on our trip today, we could listen to them. She also brought her camera, with a lens half a meter long.

At nine in the morning, when we pulled away from the wharf and motored—with the *Laila*’s silent electric engine—up the long narrow harbor, the mountains ahead of us jutted into a sky still filled

with stars.

Johan Erik pointed at the North Star, high overhead (whereas in Syria, it was much closer to the horizon). Then he pointed at a bright star toward the northwest, “Capella, the Queen of Winter.” He turned around, facing southeast, and pointed at “Vega, the Queen of Summer.” Then he explained, “Now on a morning in January, the Queen of Winter is about to set, while the Queen of Summer is just rising into the sky. The two of them are a clock, marking not the hours but the seasons.”

In Aleppo, where the streetlights were bright, we could not see such stars. Perhaps the Bedouins who lived out in the desert of eastern Syria knew about this clock.

Heike joined Olav at the helm; together they would head toward a spot where she thought they might find a pod of orca whales this morning. The whales had their favorite places, she told us, where they fed on huge schools of herring.

Once we were out of the harbor and on the open sea, the boat began to roll. The waves were not large, but this was my first day at sea on a small boat (the coastal steamer from Bodø to Svolvær had rolled only slightly), so I had to get used to the unsteady deck beneath my feet each time I moved around the stern.

My mother, Wasim and I had worried about getting seasick, but the air was so cold and fresh, and the vast black sea with stars arching over it so new to our eyes, that we never felt a moment’s discomfort.

To the west, we could see the dark snowy mountains of the Lofoten chain of islands, with lights sprinkled among them where houses were clustered near the shoreline.

To the east, across the black water which Sigurd called “the Vestfjorden, about forty kilometers wide at this point,” we could see a range of coastal mountains silhouetted against the first faint blue-white light of dawn.

As the last of the stars vanished in the brightening turquoise sky, Laila offered each of us a cup of hot coffee, steaming in the cold air. Then my mother offered each of us her potato pies, *Fatayer batata*, as well as her anise bread, *Ka’ick*, sweetened by her special egg and sugar syrup.

I laughed quietly at my mother, unsteady on her feet as she made her way around the stern deck from person to person, one hand holding her tray, the other gripping whatever she could find to steady herself. When she looked at me with an embarrassed grin, almost laughing herself, I felt a happiness reaching back to my childhood. In those years, she had given her three children a snack of *Ka’ick* every day after school.

We watched different sorts of birds. A flock of seagulls gathered above the boat, circling, hovering and diving with an occasional sharp cry. “They’re looking for fish,” said Sigurd. “They’re hoping that we’ll clean a batch of fish and throw the scraps overboard.”

But because we were looking for the sun today, and whales, the gulls sailed off on their long white wings.

Black birds with long necks flew in small flocks just above the water, ignoring us.

“Cormorants,” said Sigurd. “They swim underwater to catch fish. They’re not interested in boats.”

Johan Erik complemented my mother on her “*Fatayer batata*” (he was trying to learn the names in Arabic).

Then, standing near the stern with the sea behind him, he asked us, “Why, in January above the polar circle, is the sea not frozen? Further south, below the polar circle, the Gulf of Finland is frozen. The Gulf of Bothnia is frozen. Why, so far to the north, is Henningsvær not wrapped with ice?”

The three of us from Syria were glad enough not to be frozen ourselves; we never thought about the sea.

He answered his own question, “Because of the Gulf Stream. The Gulf Stream is a long current—almost like a very long river—that crosses the Atlantic Ocean from Africa to the Caribbean, just above the equator, absorbing heat from the sun blazing high overhead. The current snakes into the Gulf of Mexico, then hooks around the tip of Florida and continues north along the coast of the United States. Then it travels northeast across the North Atlantic to northern Europe, where it divides into several smaller currents. One heads south, past France. And one heads north, up the Norwegian coast and over the top of Norway into Russian waters. The Gulf Stream brings its warmth all the way from the equator to the Arctic. This warmth is a great gift, enabling the northern sea to be rich with life. And enabling fishermen to bring home dinner, and to earn a living. Were the Gulf Stream ever to meander off in a different direction, life for us in the Lofoten Islands would change completely.”

He did not say why the Gulf Stream might meander off in a different direction. Nor did I yet ask. I thought it might have something to do with the melting of the polar ice cap. With the rising ocean temperatures, which I had seen charted on the wall of his cabin. With the thawing of the tundra, and the release of methane into the atmosphere.

But the day at sea was so new to us—the air so fresh, the sea so vast, the sky overhead now a pale silver-blue—that I wanted to savor the beauty, and the rolling of the boat, and the adventure of searching for whales while we waited for the sun.

Johan Erik understood. He drank his coffee and stared toward the southeast, where the sun, which had vanished more than a month ago, would first peek over the edge of the sea.

Heike spent much of the morning searching with her binoculars, but spotted no whales.

Leaving Olav at the helm, she joined us on the stern deck. “If we can’t see them,” she told us, “maybe we can hear them.”

While she readied her hydrophone to lower over the side, she explained, “The return of the sun to the northern sea triggers the spawning migrations of many species of fish. The herring move further down the Norwegian coast, and the orca—the killer whales—follow them. They may have left already.”

She waved to Olav; he slowed the boat to an idle with the bow pointed into the wind from the southwest. Heike put on the headphones, then she lowered her hydrophone over the side of the boat into the sea, feeding out the thin black cable until the hydrophone was about ten meters deep. Then she listened, and we kept still, while the silent engine held the boat in place and the waves washed along our hull.

“There they are!” she called, with a quick smile at Johan Erik. “Not so far away. They’re resting, lazy at the surface. Keep an eye out for their spray.”

She looked at her watch. “Eleven fifty-six. In ten minutes, the first red cap appears.” She pointed to the southeast, where, yes, we could see a faint rosy glow in the sky.

“Rashida,” she said to me, “come sit on this bench and listen.”

I sat beside her on a bench along one side of the stern, raised my blue wool hat from over my ears and put on Heike’s headphones. And then I heard them: distant rubbery squeals, rising from a low to a high pitch, mixed with occasional shrill squeaks. I was expecting deep rumbles from creatures as large as whales, but heard instead a flock of excited underwater mice.

I laughed. With amazement, with joy. I couldn’t explain it any more than that. It was just so wonderful to hear them.

I lifted the headphones from my ears and turned to my mother. “Mama, you must come listen to them.”

I stood and let her sit on the bench, then gave her the headphones. Heike helped her to adjust

them. My mother listened, then she exclaimed, "They're worse than Arabs in a market!"

And so, during those ten minutes when the pale rose light in the southeastern sky became a deeper red, we all took turns listening to the whales. After my mother, Wasim, and then Sigurd. Laila. Olav. Johan Erik. People listened, with a smile, with a gaze of rapt attention.

Johan Erik offered the headphones to Heike, but she gestured that I should wear them again. And so I was listening to voices from somewhere nearby in the sea, as the first scarlet cap of the sun peeked above the sea's horizon, casting a tiny red stripe across the water toward us.

Sliding incrementally to the right as it rose above the gray-blue water, the sun gradually lifted its full diameter above the horizon; a broad red stripe shone across the water and gave a reddish tinge to the crests of the waves rolling toward our boat.

I passed the headphones to my mother, so that she could listen to her new friends as the sun fully revealed itself and . . . no longer touched the water.

Once again we passed the headphones from person to person, while the golden-red sun rose in a low arch over the southern sea. My mother's face, Wasim's face, everyone's face was tinged with red as they stared, and listened.

I gazed at the vast openness of the ocean . . . I felt the rolling of the boat . . . When we stand on solid ground, I thought, we forget about the land. But we can never forget the rolling sea. It was as if Creation itself kept reminding us, "I am here. I am here."

This is where Allah comes when he cannot stomach our wars any more. He comes home to the ocean, to the mountains, to the breeze sweeping over the waves. To the sky spreading its colors on the sea . . . the sea which delights in wearing those colors, as a woman delights in dancing while wearing a resplendent gown.

The sun arched westward, because the Earth rolled eastward. The *Laila* floated on water warmed by the Gulf Stream; the boat was not frozen in ice. It did not float on a lifeless sea. It floated on a current, a great river of water warmed by the sun that now came to warm our faces as well.

How fortunate to be alive aboard our boat on this day.

Al-hamdullah. Thank you, God.

"There they are!" called Heike, looking to the east with her binoculars. "I see their spray. A dozen orcas. Look carefully, you can see their tall black fins."

She handed her binoculars to me. I scanned the water in the direction she had been looking . . . until I spotted, tiny, in the distance, several tall black fins clustered above the water. And then I saw the spray of one of the whales, a fountain of mist—of rosy mist—puffing into the air.

I handed the binoculars to my mother. "Watch, you can see the spray of one of them breathing."

Happiness began to seep back into me on that day. It was as if not just the whales, not just the sun, not just the sea, but the Creator himself . . . pushed the war aside and said, "Let me show you something else. Let me show you the way the world *could* be."

Now Sigurd called out, as he looked through the binoculars, "Heike, one of them has lifted his head. Look!"

He handed her the binoculars and she looked for a moment, then she handed them to me and reached for her camera.

I looked and saw a black face lifted above the water, with a pointed nose and a white chin and a white spot where the ear would be. Had the whale lifted its face to look at the sun? Did it squeal and squeak its own prayer?

The boat rolled beneath my feet, rocking me, rocking me, while I stared.

* * *

Johan Erik speaking now:

I knew that this was what my grandfathered called “a moment of perfection.” He called it that when he pointed at a rainbow over islands, or at a pair of eagles circling above our boat. Or it could be the day itself, with a calm summer sea beneath a golden sun circling toward the north in a cloudless blue sky.

The sun today completed its low arch in twenty-eight minutes, then it touched the sea a bit west of south.

In the last of its glow, Rashida looked at me, her eyes not so distant now. “Thank you, Johan Erik, for organizing this trip.”

“You are welcome, Rashida.”

I wanted to say something more—perhaps ask her what she thought about the whales—but she was once again watching the red sun as it disappeared into the sea.

I had learned that it was better to let her speak at her own pace, without any questions from me. Better to let the sun come back, little by little, each day.

A New Civilization

Chapter Twenty

The hardest part about being a refugee in a small village in northern Norway was that no one could understand the war we had come from in Syria. People were friendly and helpful, patient with my English, glad to show me something in their shop, but they had not lost a father and a brother to the barbarism of war. They had not fled their hometown during an artillery shelling that destroyed the apartment building next door. They had not ridden in the back of a crowded, jouncing truck in the middle of the night toward the border with Turkey. They had not lived for a blur of months in a refugee camp into which clusters of people staggered every day, every night, their lives blasted and shattered.

But that was our situation now. My mother and brother and I were safe, in a land where people welcomed us and schools opened their doors to us. And where we kept our previous lives, discussed in Arabic, to ourselves.

When Johan Erik invited me to come on a school trip to visit a wind turbine company in Denmark, I thought of the wind turbines that powered the refugee camp. I had often looked at those five turbines outside the camp fence, their white blades spinning—they were rarely idle—in the dusty blue sky. The sun shone by day on the solar panels, while the wind blew both day and night.

I remembered one evening, while walking with Doctor Rosie to a tent at the far edge of the camp, when I looked up at a wind turbine that towered above the camp fence, its blades in the darkening sky lit by a rising three-quarter moon. That turbine powered the light bulbs in our tents. It powered the radios, it charged the telephones. It powered the electric heaters that kept us from freezing in the night.

It powered the refrigerator in the medical tent, where medicines could be kept cold. It powered the lamp over the surgical table, and the instrument that monitored on a screen an unborn baby's heartbeat during the stress of a Cesarean birth.

On that evening when I walked with Doctor Rosie along one of the lit streets, passing among clusters of people outside their tents—children bundled in layers of clothes from other countries; women in *abayas* as black as the night, conferring with each other; men standing about with nowhere to go—the tall wind turbine that spun steadily in the moonlight was so reassuring.

Like a tall, strong friend, close enough that I could hear the faint *whoosh whoosh whoosh* of its blades, the turbine turned a desert wind into the glow of hundreds of street lights. It turned a desert wind into the glow of a single light bulb in a tent where, ten minutes later, Doctor Rosie examined the burns on a shrieking infant, as well as on the hands and face of the mother.

Yes, like a steady friend, the wind turbine stood up to the chaos of war and gave us many small victories.

So I told Johan Erik that I would very much like to visit this wind turbine company in Denmark. The turbines that powered our camp had been made, as an engineer told us, in Spain. Nevertheless, I wanted to see where wind turbines came from, and I wanted to meet the people who made them.

I wanted to say, Thank you.

Our group of twenty students, with three teachers, rode a bus on a cold, dark Sunday morning, January 13, 2012, from Henningsvær to Svolvær. Then we flew from Svolvær to Bodø to Oslo, and from Oslo to Aarhus, Denmark . . . on a day of increasing sunshine. I do not mean that the clouds disappeared,

letting the sun shine through. I mean that as we flew south, the winter sun rose higher and higher in the sky, and daylight became longer and longer. The sun had returned to Henningsvær only a week before our departure. It had shone at midday for a couple of hours; by three in the afternoon, Orion was marching across a sky filled with stars.

So my heart gladdened enormously as I peered down from the plane window at Norway's snowy mountains and hills and forests, and then at Denmark's snowy flat fields, all lit by abundant sunshine.

When we got off the plane in Aarhus, picked up our luggage and then stepped outside of the airport to a sidewalk lit by the late afternoon sun, I did not stand with the other students—who were always chattering, as it seemed to me, with their bright voices and quick laughter—but stood to one side, where I was fully lit by sunlight . . . and felt the warmth on my cheeks.

The students in our group included sixth graders to tenth graders, ages eleven to sixteen. (Henningsvær School went only as far as tenth grade.) Johan Erik, sixteen years old (like myself) and student organizer of this trip, wanted not just high school students, but kids as young as sixth graders, “to see what these wind turbines can do.” And so my brother Wasim, who is twelve, and who had worked as an apprentice to a Turkish engineer in the camp, was chosen to be part of the group.

Wasim already had several friends among the boys in his class. He had only three subjects in school: Norwegian, mathematics, and football. He learned the rules of Norwegian grammar in class, then practiced with his friends. He quickly moved from a sixth grade class in mathematics to the eighth grade level. And he kicked the ball as well as the other boys on the football field. With his friends, his voice became bright and his laughter was quick.

I, however, could not immerse myself in this new world. After my first morning of classes at the school in Henningsvær, I did not eat lunch in the noisy cafeteria, but stood alone outside in the snowy wind, needing quiet, needing to be alone, needing . . . to know if maybe today the war had ended in Syria.

Johan Erik found me standing near a bank of plowed snow, for he seemed to be always watching me. He was a cautious friend, because I silently insisted that he be no more than a distant friend.

“Rashida, come inside. You'll freeze out here.”

“I can't.”

“Why are you out here? What's wrong?”

“I want to go back to Laila's house.” Laila was teaching Norwegian to my mother. I would join them. I was not, absolutely not, ready for a noisy school.

“All right.” He hesitated, unsure what to do. I was wearing a coat and hat and mittens. He was in his classroom shirt. “Let me get my coat and I'll walk with you to your home.”

A Muslim girl does not walk, unaccompanied, with a single man. But neither did I want to be someone strange and difficult.

I told him, “All right.”

I remained outside the school, near a parking lot with cars already blanketed with fresh snow—everything was so bleak and cold and lifeless—while Johan Erik got his coat and hat and gloves, and perhaps told someone that he was going to escort me home.

As we walked on the snowy streets through the village, we were both quiet. He did not ask me any questions, other than, “Are you warm enough?”

“Yes, thank you.”

When we arrived at his grandparents' red house—and my house, for I had come to deeply love this house—he knocked on the door, then opened it and called in, “Bestemor? Rashida has come home early.”

Laila came down the stairs; she seemed not at all surprised to see me. “Your mother and I are in the middle of class. Please come join us.”

I turned to Johan Erik. “Thank you.”

“Rashida, you are welcome.”

I went inside the house that had such a different smell from the homes in Syria; Norwegians did not have our spices, and they used a different soap in the kitchen. I took off my coat, then Laila gestured for me to go ahead of her up the stairs. And so we went to the classroom with tables and books, where my mother sat with a welcoming smile.

“*Velkommen, Rashida,*” she said. “*Jeg heter Zainab.*” My name is Zainab.

With a cup of Laila’s strong coffee, I joined the class.

* * *

Part of the purpose of this trip to the wind turbine factory in Denmark was to enable me to meet, outside of school, some Norwegian students. They would be glad, as Johan Erik told me, to speak English with me.

I tried to be friendly on the airplane, and in the airports, and on the bus to our hotel in Aarhus, a town by the sea. I tried to be friendly during dinner. But we had so little to talk about. So I went to bed early. I shared the room with a girl named Vibeke who did not seem to mind that I was quiet. I was still awake when she came into the room, undressed in the dark and got into her bed.

How strange it seemed, that in one corner of the world, Syrians were killing Syrians in a civil war—a war of people against their own people—while in another part of the world, that war did not seem to exist.

I had noticed, on the front page of a newspaper on the hotel desk while we were checking in, the name “Syria” at the top of an article in Danish. I saw a picture of a street which I knew well in Aleppo, with burnt cars and clouds of smoke and men with rifles running through rubble.

How strange was this world.

It was as if I had lived on one planet, and now I lived on another planet. The planet of War, and the planet of Peace.

But the planet of Peace was so lonely.

I thought of that wind turbine spinning in the moonlight beside the refugee camp.

It had been more than a source of electricity.

It had been a beacon of intelligence, rising above the grief and the worry and the dust to tell us, “Yes, there is a better way.”

Chapter Twenty-One



Wing feather from a sea eagle.

On Monday morning, January 14, our group rode in a bus from the hotel to the Global Headquarters of Danish Wind, as we read on the sign in front of a building unlike any building I had ever seen. The Headquarters was big, only three stories tall but as wide and long as one of our city blocks in Aleppo. The walls did not have windows; the walls *were* windows, made almost entirely of glass. The Danish Wind Headquarters was an enormous box of glass, reflecting the blue sky on a day of sunshine.

I stood for a moment, apart from the group, lifting my face to the morning sun. I imagined that I stood in an olive grove in Syria, facing the morning sun while the air was still cool, before the heat of the day. And before the war, back in the time when a girl could stand in an olive grove and believe that she was in the most perfect place in the world.

We walked through the entrance into a long glass box, three stories high, reaching to the far end of the building, with tables and chairs clustered along its length, and slender trees in a row, as if *outside* had come *inside* the building.

We were met by a young woman named Maibritt, who welcomed us to Danish Wind and told us that we were standing in an “atrium”. We took off our coats and hung them in a cloakroom, then we followed Maibritt—I was wearing my blue *abaya* and a blue scarf—beneath the long stripe of blue sky above the glass ceiling.

We entered a small lecture hall, with sloping seats facing a speaker’s podium and a movie screen. I had just entered the room, and was looking for a seat at the outer edge of the group, when I heard someone

say in Arabic, “*Marhaba.*” Hello.

I turned and saw a man whom I knew immediately to be Arabic. He introduced himself as “Rafeek”, from Alexandria, Egypt. He was an engineer here at Danish Wind, and would serve as my interpreter today, since the presentation would be made in Danish, which the Norwegians could understand.

“I am Rashida, from Aleppo, Syria,” I said, very glad to be able to speak my own language.

“But there are two of you, yes?” he asked. “You and your brother?”

“*Na’m,*” I said, looking around for Wasim.

He too was delighted to find someone who spoke Arabic. Now he could ask his questions, without struggling with his meager English from school in Aleppo, or his rapidly growing but still limited Norwegian.

“I am Wasim,” he said, shaking Rafeek’s hand. He was better dressed than the other boys; they wore their usual school clothes, whereas he wore a new white business shirt, and even a tie, bought especially for this trip. “Rafeek, what sort of engineering do you do here?”

Rafeek laughed, that wonderful warm Arab laugh, then he told Wasim, “I will show you, when we visit my office.”

Rafeek gave Wasim and me cordless headphones to wear, each with a microphone. He too would wear headphones, and would translate for us. The three of us sat apart from the main group, where we could have our own quiet conversation in Arabic.

I knew that Johan Erik must have arranged for an Arabic translator. I was grateful, and would later thank him.

Now Maibritt, speaking into a microphone at the speaker’s podium, once again welcomed us to Danish Wind, then told us about the Headquarter’s building. Completed in November of 2011, it met the highest architectural standards as “environmentally responsible”. Solar cells on the roof powered the building. A combination of solar heat on the roof and geothermal heating in the ground kept the building warm. Sun shields on the outer walls moved as the sun moved, permitting a controlled amount of sunlight, and thus heat, into the building. The combination of these various technologies kept the building cool in the summer, warm in the winter. The building’s carbon dioxide footprint was minimal.

Rainwater from the roof was used to flush the toilets and to water the grounds. Fresh air from outside could pass through the atriums. Danish Wind had leased two electric cars for company use. “We must think green,” said Maibritt, “in everything that we do.”

Then she showed us a sequence of pictures on the screen, illustrating the history of Danish Wind. The company began in 1898, when a blacksmith named Hansen opened his shop in the village of Lem on the western coast of Denmark. He made tools for local farmers, tools that needed to be strong and long-lasting. The company evolved, manufacturing various products such as coolers on ships, and large cranes, as it followed the market through the twentieth century.

Then, in 1973 and again in 1979, there were two disruptions in oil from the Middle East. A war between Israel and several Arab countries, and a revolution in Iran, stopped the flow of oil. And so little Denmark, anticipating further uncertainty in the future, decided to look for an alternative source of energy. The Danish government supported research and development in wind energy, and thus gave birth to a vibrant new industry.

I thought: Once again, war in the Middle East. Revolution bringing vast throngs of angry men out into the streets. While the West is worried about its oil.

In 1979, Danish Wind sold its first commercial wind turbine. During the early 1980s, Danish Wind sold wind turbines to a pioneering company in California. In 1986, Danish Wind constructed the first three wind turbines in China, turbines which are still spinning and producing electricity today.

Danish Wind has also developed educational programs in China, and today works with twelve universities in training top-level engineers.

In 1991, Danish Wind erected its one thousandth wind turbine. By 1997 (I was one year old), Danish Wind was setting up turbines in fifteen countries. In 1998, the company was listed on the Copenhagen stock market.

What, I wondered, was my country doing during the 1990s?

But I had no time to reflect, as Maibritt continued her lecture on the company's steady progress. Orders were growing; in 2000, at the beginning of the new century, Danish Wind sold 1,800 wind turbines to Spain. In 2001, the company signed contracts with Costa Rica and Iran. Iran! I had never heard about wind turbines in Iran.

Danish Wind built a huge offshore wind farm, a pioneering effort, in the Atlantic Ocean off the western coast of Denmark. But the eighty turbines developed problems, and all eighty nacelles—the housing at the top of the tower which contains the gears and generator—were brought back to land for repairs. The expense was great, but Danish Wind proved to the world that it would take full responsibility for the quality of its turbines.

In 2006 (I was now ten years old), Danish Wind opened a blade factory in China, a country which was serious about developing wind energy.

By 2007, Danish Wind was building a new turbine somewhere in the world every four hours.

2008 was the company's best financial year. But the global recession began in September, slowing orders and creating long-term uncertainty.

Danish Wind opened an American office in Portland, Oregon, and built four factories in Colorado. But the lack of a long-term energy plan in Washington, compounded by an unreliable "production tax credit"—government support which encouraged private investment—meant that by 2012, Danish Wind had to lay off hundreds of American workers. Other wind turbine companies were also shutting their factories in America; they were moving to Canada, Mexico, and Brazil. And to booming markets in Asia.

Now in 2013, following years of progress and years of upheaval, Danish Wind was pioneering the way into the twenty-first century with a 7.0 megawatt turbine, the largest turbine it had ever built. This "revolutionary product," said Maibritt, would stand in wind farms offshore, catching the ocean wind with blades longer than fifty meters.

She told us that tomorrow, our group would travel by bus to the blade factory in Lem, close to the Atlantic coast. We would see for ourselves how the giant blades were made.

Maibritt showed a final picture—over a hundred wind turbines at sea, standing in a large grid in the golden sheen cast by the sun across the wind-rippled water—then she asked, "Are there any questions so far?"

I heard Wasim announce in Arabic, "Rafeek, I want to work here. I want to design those blades."

"Good, good," said Rafeek. "How old are you now?"

"I am twelve. But I am doing eighth grade math already."

"Oh!" exclaimed Rafeek, impressed. "Then I shall speak with my director."

I looked at Wasim, sitting with his headphones on between Rafeek and me. His eyes were very happy.

Maibritt answered questions from the students, then she showed us a short film which took us from the bottom to the top of a wind turbine. The cameraman first raised his camera from the base of the tower to the blades spinning in a blue sky. Then he followed a crew of three technicians, wearing blue overalls and orange hard hats, and a backpack with tools and equipment, as they climbed the aluminum

stairs leading to the turbine's steel door. Stepping inside, the technicians pointed out some of the meters on an instrument panel. Then one technician fastened a gripping device, attaching his harness to a cable that ascended the length of an aluminum ladder, a ladder that was over a hundred meters tall. The technician explained that the device would slide up the cable while he was climbing, but would grip the cable, should he fall and pull it in a downward direction. Then he began to climb the ladder.

As the second technician attached his gripping device, he looked at the camera with a grin. "We start our day with a long commute." Then up he went.

The technicians were able to rest on a platform one-third of the way up the tower, then on a second platform two-thirds of the way up. One took a drink from a water bottle.

At the top of the tower, the first technician opened a hatch and climbed up into the nacelle. The other two technicians followed. Then the cameraman climbed into a chamber packed with industrial equipment.

"Here," said a technician, "is the axel coming in from the hub and the blades. And here is the gear box, which turns the axel's seventeen rotations per minute into a much higher figure. And here," he patted a large white casing, "is the generator which takes mechanical energy and turns it into electrical energy. The energy flows down a cable to the bottom of the tower, then flows in an underground cable to a substation attached to the grid. All of this happens so that the wind can help you to make a cup of coffee in the morning."

The technician, clearly enjoying his role, took a thermos from his backpack and poured himself a cup of coffee.

Now the technician who had been number three became number one, for he climbed a short ladder to a hatch in the roof of the nacelle, swung a lever and opened the hatch, thus revealing a square of blue sky. He climbed up through the hatch, calling back, "This is my favorite office in the whole world."

The other technicians followed.

The camera peered from the hatch, looking up at a technician with a short cable attached between his harness and the roof of the nacelle, which was now the platform that he was standing on. The other two technicians were also attached with safety cables.

When the cameraman had emerged through the hatch to his waist, a technician attached a safety cable to his harness. "It's sometimes a bit gusty up here," he said with his grin. "We'd rather have you dangle than drop."

"Thank you very much."

The cameraman now fully emerged. He panned his camera in a full circle, showing Danish farms on flat green countryside, and other white turbines in the distance. Then the camera swept up a stationary blade to its tip in the blue heavens. The blade was so graceful, curving and tapered along its length like a giant white feather.

And then . . . the camera pointed down at a tiny white Danish Wind truck near the base of the tower, and we all saw how incredibly high we were. Even with the headphones on, I could hear a gasp from the other students.

"Well," grinned the technician, "Denmark isn't the only place where you can find Danish Wind turbines."

Suddenly, we were looking at snowy mountains in the distance. Then rolling green forest. Then gray-and-silver sea. And then—I jolted up straight in my chair—a desert with wind-sculpted dunes.

I asked, "Rafeek, where is that desert?"

"Morocco," he answered. "In both sun and wind, Morocco is ahead of the rest of us."

"Does Danish Wind have any wind turbines in Syria?"

“Rashida, I am sorry.” After a pause, he added, “I will not say, No. I will say, Not yet.” Had there been a wind turbine in Syria, I knew, it probably would have been destroyed by the war.

The film ended, and again Maibratt answered questions.

My question was (though I did not ask it), How do we end these wars?

Not just the war in Syria.

All of them.

* * *

Our group left the auditorium and followed Maibratt further through the atrium. People sat at tables along the way, with papers and laptops, having meetings not in a closed room, but with the blue sky overhead. They seemed, as I noted from their faces, to have come from a multitude of countries. No one here hated somebody because of an argument that began over a thousand years ago. Instead, they sat at a table lit by daylight and discussed how to design and build and market a better wind turbine.

Next on the agenda was a visit, as Maibratt told us, to “product development”. We broke into smaller groups of three or four students, then visited various people at their desks or in a laboratory. Rafeek took Wasim and me to his desk, where he showed us on his computer screen what sort of work he did.

“I study the flow of the wind through the wind turbine blades. We want to catch as much of the wind as possible, and we want to use that wind with maximum efficiency. So we must look at the wind as it approaches a turbine, and as it passes through the blades. And we must look at the turbulence *after* the wind leaves the turbine.”

Wasim and I sat in chairs on either side of Rafeek, looking at green lines on the screen flowing uniformly from the left, then bending in various ways as they passed through the spinning blades. The last time I had seen an electric green line on a screen was in the medical tent in the refugee camp, where I had watched the beating of a prenatal heart. Now I was watching the wind.

“But what happens if we have many turbines in a wind farm? The turbulence from the turbines upstream can affect the efficiency of the turbines downstream. So we must position the turbines so that the effects of their turbulence are minimal.”

Rafeek showed first a photograph of a wind farm at sea, then he rendered the photograph into an electronic image with multitudes of green lines passing through multitudes of spinning turbines.

He pointed at a particular turbine. “Let’s take a look at this one.” The computer magnified that one turbine, so that I could see now not a uniform flow of green lines from the left, but shifting, jumbled, sometimes even whirling green lines.

“When you run, you want to run on solid ground. When you swim, you want to swim in calm water, not choppy water. And if you are a wind turbine blade, you want to spin in a smooth, steady wind. You do not want gusts and pockets.”

Rafeek returned the turbine to its wind farm of perhaps a hundred turbines, then he asked us, “What happens when the wind swings to a new direction? If the positioning of turbines is most efficient with a wind from the west, what happens when the wind swings to the south?”

He shifted the wind on a compass in a corner of the screen from west to south; the green lines all shifted, passing through the wind farm from a different angle.

“Or,” he showed us a photograph of wind turbines on a terrain of rolling hills, “what if the wind farm is not all on one level? How is the wind on a hilltop different from the wind along the slope of a valley?”

Wasim laughed. "This is great! I could do this all day."

"Wasim," said Rafeek, "you told me that you have a talent for mathematics. Look."

With a click, he turned the photograph into an electronic rendering with green lines flowing over the hills. With a second click, he replaced those lines with streams of tiny numbers.

"Here you have the picture rendered numerically, measuring wind speeds, torque, densities. Once you have defined the wind with numbers, you can apply your mathematics."

"The trigonometry of the wind. I love it."

"And you, Rashida," said Rafeek, turning to me. "Take a look at this."

He showed a picture of wind turbines standing on thin strips of grassy land meandering through rice paddies. I could see children walking on a path, and a man plowing with a water buffalo. Everything was so peaceful, so fruitful, so intelligent: ancient and modern at the same time.

"Where do we position the wind turbines, when the production of electricity *and* the production of food are interwoven? Where do we position the turbines when we must honor the local culture? At Danish Wind, we are keenly aware of local cultures, local traditions. We are not dynamiting the top off a mountain so we can get at the coal. We want people to accept, and even welcome, these new turbines into their community."

"Rafeek," I said, "you are doing very good work."

The students gathered once again into a group, then followed Maibritt to the "economics department", where a young woman from India explained that a university degree in economics was no longer enough. "The economics of clean energy is an entirely new field. It is international, thinking in terms of a *team* of countries, rather than cut-throat competition among countries. It thinks long-term, looking ahead to mid-century and even to the end of the century, rather than short-term, fixated with the earnings of every quarter. And it takes into account the environmental effects of every project, thinking in terms of migrating birds and spawning fish, rather than just the human shareholders."

We learned much the same when we visited the legal department, where a young man from Ireland (I thought of Doctor Rosie) told us, "Clean energy law is an entirely new field. First of all, it is international, working to harmonize many different legal systems. For example, a wind turbine contains components manufactured in different countries. The Danish turbine is then sold to Ireland, with financing from a German bank, and grid connection through an Irish-Chinese consortium. The electrical power will be used in Ireland, as well as, by means of underwater cables, England, Wales, and Scotland. Eventually, Irish power may be cabled to the continent. Throw in different currencies, throw in various tax structures, throw in politics and the occasional election. Who on earth is going to sort it all out? *That* is the job of the clean energy attorney: to keep everyone legal while we make steady progress on the next wind farm."

I marveled at what was going on in this building. These people were not dreamers; they were professionals, building something far more than a machine which produced clean energy. They were building a future, a future that made sense.

Our next stop, to everyone's delight, was a cafeteria where we had lunch. Once again, as I scanned the people at the tables, I saw faces from a multitude of countries. I heard lively discussions, I heard laughter.

The food was international as well. I could eat Turkish today, Greek tomorrow, and Chinese on Wednesday if I wanted.

The three of us sat at a round table with Johan Erik and two other students. I introduced Johan Erik to Rafeek, then I thanked him for arranging with Danish Wind for an Arabic translator.

“You are welcome, Rashida.” He turned to my brother, “And you, Wasim, the boy with a hundred questions. Are you finding some answers?”

“Yes, I am keeping Rafeek busy.”

Rafeek laughed. “Wasim wants to be senior engineer in charge of the next generation of wind turbines.”

I noticed a map of the world on the wall of the cafeteria. After I had finished a most wonderful piece of chocolate cake, with a cup of strong black coffee, I walked over to the map. Different countries, or groups of countries, were marked with different colors, indicating where Danish Wind was working on wind turbine projects. Important offices were lit with glowing white pins.

Syria had no special color; no glowing pin stood in Damascus.

“Rashida, will you show me your country?”

Vibeke, my roommate at the hotel, stood next to me. Her blue eyes were earnest.

I pointed at my small, pale brown country. “Here is Syria, just below Turkey. Here we have a coastline on the Mediterranean. Then we border Lebanon,” I moved my finger around the periphery of my country, “Israel, Jordan, and Iraq.”

I hesitated. What more to say? Who could understand?

“Rashida, I know you come from a war. Maybe one day, you would tell me about it.”

Vibeke’s blue eyes said to me, I want to be your friend.

“Vibeke, maybe one day I will.”

After lunch, we walked as a group a short distance outside to a nearby building, the Technology R & D Center, where we looked at various parts of a wind turbine. R & D meant, as Rafeek told me—and as Wasim of course already knew—Research and Development. First you gather knowledge, then you develop that knowledge until you have a new product.

You learn, then you build.

We examined a nacelle on a shop floor, its housing open so that we could see the gear box, generator, cooling system, and a dozen other things inside. The nacelle was as big as a shortened bus; it held big machines, meant to operate in big winds.

Eventually, we made our way back to the lecture hall, where Maibritt invited a last round of questions. As the students asked her about a variety of things, I wanted to speak as well. I did not have a question. I wanted to say, Thank you.

After about ten minutes of questions, no one raised a hand. All the questions seemed to have been answered.

I, my heart thumping, raised my hand.

Maibritt spotted me and called, “Yes?”

I stood up, in my blue *abaya*, and blue *hijab* that covered my hair, very aware that everyone was now staring at me.

“I would like to say . . . that I am Rashida Salama from the country of Syria.”

Johan Erik was watching me. His eyes offered encouragement.

“Syria is an ancient country. The Euphrates River flows through it. People have been living along the banks of the river since before the writing of history. If you travel around Syria, you can find the ruins of a sequence of civilizations. People irrigated, people built a great city, and then the city was attacked by some invading army. The city with its fountains and libraries was destroyed, and the people were slaughtered or taken away as slaves. Thus many civilizations have prospered, and died, in Syria.”

I looked at Wasim, staring at me intently while Rafeek quietly translated my English into Arabic. I was speaking for Wasim as well, and for our brother and father.

To the audience of students, staring at me with serious faces, I said, “Today our country is shattered by yet another war. This time we do not fight some foreign invader; we fight ourselves. Why? It would take hours to explain to you why we pursue such insanity. I know only . . . that Wasim and I . . . we lost our brother and our father in that war.”

I glanced again at Wasim, saw the sadness in his usually cheerful face.

“So I want to say,” I now addressed Maibritt, “thank you to Danish Wind for this extraordinary day. Because . . . I see that you are doing more than building wind turbines. I come from a country that looks back at old hatreds, but today I have been in a wonderful place that looks *ahead* to a better future. I come from a country where many girls have little schooling, but today I have been in a building filled with bright, educated women. I come from a country where children, even children, are tortured in prisons. But today, I have been in a place which understands that healthy children need a healthy world.

“So I would like to say, ‘Thank you’, to Danish Wind. Thank you for our visit today. Thank you for your wonderful wind turbines, producing clean electricity in more and more places around the world. Thank you for the education that you give to so many people. Thank you for the light bulbs and refrigerators and field hospitals that you bring to desperate people. Thank you for your vision, and strength, and determination, as you bring your beautiful dream to a battered world.”

I was almost there. One more thing. I wanted them to understand one more thing.

“Maibritt, you said this morning that your largest wind turbine will be able to produce, if I remember correctly, 7.0 megawatts per hour. You called this new offshore turbine a ‘revolutionary product’. From what I have learned in school, a revolution is a violent change of government, such as the Russian Revolution. Or it may be a great change in tools or machinery, such as the steam engine and the Industrial Revolution.

“It seems to me that Danish Wind is doing more than offering a revolution in new machinery to the world. Danish Wind is offering a renaissance, a change in the way we think. No more shall we brood on the past; instead, we shall envision a new future. No more is it Us against Them; instead, it is all of us working together, and all of us equal.

“This is a renaissance. Because with this new way of thinking, we can build a new civilization, one far better than those which lie in ruins.”

That was enough. Let the students think about that New Civilization for a while.

“*Shukran*,” I said to Maibritt. “That is Arabic for Thank you.”

The lecture hall was silent.

And then Johan Erik began to clap. The students immediately joined him with their applause.

I sat down. For the first time since I had left Syria, I began to feel a little bit at home.

Chapter Twenty-Two



Catching wind engendered by the sun.

Rashida and Wasim sat on the front seat of the bus the next morning on our way to Lem. I wanted them to see the Danish countryside, and the big windshield provided the best view.

I sat behind them, where I could confer now and then with the driver. The trip from Aarhus to Lem on the western coast of Denmark was 130 kilometers, a two-hour drive. Maibritt had suggested to me, and by phone to the driver, that we stop near a village between Aarhus and Silkeborg, where we

could get out of the bus and walk a short distance to a wind turbine. The students, Maibritt suggested, could climb the stairs up to the tower's door and take pictures of each other there.

In Norway, we have endless mountains and thus countless streams and rivers flowing down to the sea. We therefore rely almost entirely on hydropower. We don't have many wind turbines yet in Norway. But here in flat Denmark, where the winds blow off the North Atlantic, wind turbines were spinning everywhere in the snowy fields, like giant white daisies springing up beneath the low gray sky.

(A joke went around the bus among my fellow Norwegians. We were so used to mountains—even our islands in the Lofoten were really the jagged peaks of mountains jutting up from the sea—that poor flat Denmark looked a bit empty. The joke was, "Once upon a time, people thought the world was flat. Then they said it was round. Well, now we know the truth.")

After about half an hour on the highway, the driver, a jovial fellow named Rasmus, turned onto a smaller road and soon parked at the edge of a snowy field just outside a village. In the middle of that field, about a hundred meters away, stood our wind turbine.

The snow was not deep, so that even in school shoes we managed the short hike. We gathered around the base of the tall white tower and stared up at the white blades spinning in a charcoal-gray sky. We could hear the *whoosh whoosh whoosh* as each blade swept down. Every student knew that we were on our way to Lem today to see the factory where those enormous blades were made.

Clusters of students climbed the half-dozen aluminum steps up to the curved steel door, then smiled and waved at cameras. One student laid in the snow, then took a picture almost straight up of two friends peering down, with the spinning blades high above them.

Rasmus suggested to us, "Press your ear against the tower. You can hear the machinery working inside."

So our group of twenty students and three teachers wrapped around the base of the tower and pressed our ears against the cold steel. Sure enough, we could hear a number of sounds: the rumbling gears, and the axel of the turning blades, and a deep hum of power flowing down the cable.

Rashida no longer stood at the edge of the group. She had her picture taken with three other girls on the steps; she was even smiling, faintly. Now, as she pressed her ear against the cold steel of the tower and listened to the workings inside, she laughed. I don't know why she laughed. But I was deeply glad to see that moment of happiness in her face.

After about fifteen minutes at the wind tower, we boarded the bus and continued our journey toward Lem. We were following Route 15, past Silkeborg, Bording, Ikast, Herning, Videbæk, and then we turned south on Route 28 and drove the short distance to Lem, where a blacksmith named Hansen had set up shop in 1898, making sturdy implements for dairy farmers and hog farmers, and where today the great grandchildren of his generation made twenty-first century carbon-fiber blades.

When we arrived at Danish Wind, we were welcomed by a woman named Helena, who led us from the parking lot toward a beige metal building big enough to house half of Henningsvær. We filed through a door, took off our coats, then stepped through a second door into the biggest workshop in the world. *There* were the blades, horizontal, some in a long open mold, some suspended by straps, with clusters of people working from the round base at one end to the tip at the other.

Following Helene to a spot which she called "the best view", we stood near the tip of an almost completed blade, able to look along its curving, graceful, fifty-meter length. It was like a feather from a sea eagle's wing, but ten thousand times larger, and gracefully slender, far more stretched in its length than a real feather. Never had I seen anything made by man so absolutely beautiful.

We took pictures of each other standing with the blade behind us. Then we spoke with some of the technicians, who explained that they were laying on sheets of carbon fiber in a way that would make

the blade both light and strong.

I wished very much that my grandfather were with us, the weather-battered fisherman who had witnessed the incremental changes in the seasons, who had been baffled by the shifting of the currents and the winds, who had searched, as the other fishermen had searched, for the cod that had moved from their usual waters. I would have liked Bestefar to see these blades. He would be astonished at their size. He would have admired their curves; he often had a seagull's white feather tucked into the white hair above his ear. And he would have felt the hope . . . that maybe we had a chance. Maybe, if other nations became as smart as Denmark, we might have a chance to keep at least part of the polar ice cap. To keep the warming of the air and the sea to a minimum. To shorten the droughts, and reduce the floods. And to bring the cod back home to where they belonged.

My grandfather would have liked a picture of himself, with Rashida standing on one side of him and Wasim on the other, in front of a long slender white blade. Or . . . maybe *I* could stand between them. I asked Rashida if she and Wasim would join me in a picture, "to show Laila and Olav back home". She readily agreed, and so the three of us stood together—I with one hand on Wasim's shoulder, though I did not touch Rashida—while half a dozen other students took our picture. I felt that this was, somehow, a moment in history.

Back on the bus, we rode north to Route 15, which we then followed west a short distance to the town of Ringkøbing. Angling left, we approached two large Danish Wind buildings right on the harbor. Clearly, this world-class company was bringing jobs to the small towns of Denmark.

As we got off the bus, we looked up at the brightening sky: it was clearing to the north. ("North-northwest," my grandfather would say, to be precise.) Perhaps a clear wind would push the clouds further south, bringing us some afternoon sunshine.

We were welcomed by a young man named Esben, who suggested that first we have lunch. A cheer went up, mostly from the sixth graders. We followed Esben to a cafeteria with large windows that looked out at the harbor. Now in January, many of the boats were covered with canvas.

We were one of two visiting groups in the cafeteria. Already seated were about twenty-five visitors from China. Some spoke Chinese, while others spoke English with their Danish colleagues.

After dessert—hot apple pie and a cup of coffee—we followed Esben to the second Danish Wind building on the harbor, an enormous structure adjoining the concrete wharf. Inside, we once again entered the Land of the Giants, for here the nacelles were assembled with parts from around the world.

As big as a bus, though not quite as long, the rounded white nacelles looked more like space stations than some earth-bound housing. We inspected the huge round plate at one end, with a ring of holes where the hub would be attached with a ring of bolts. We looked underneath at a similar ring of holes, where the nacelle would be attached to the top of the tower.

While we peered at the complex machinery inside the nacelle, the workers were glad to explain the various components and how they fit together. Because parts had been manufactured in a multitude of factories, they had to be thoroughly tested. These nacelles, we were told, were designed to stand in the briny winds at sea for twenty years, with, hopefully, only minor repairs.

Once again I wished that my grandfather were with me. He had taken apart and repaired the old diesel engine on the fishing boat a number of times. He would appreciate these big clean engines, powered not by dirty diesel, but by the wind.

By the time we ended our tour and returned to the bus, the January afternoon was darkening. But the pale blue sky was clear; the clouds had been swept away to the distant south. To the west, the

turquoise sky glowed, minutes after sunset.

Once we were all aboard, Rasmus told us through his microphone and speaker system that before we headed back to Aarhus, he wanted to show us the beach. We followed the last stretch of Route 15 to a coastline entirely unlike the Norwegian coastline, for the gray Atlantic rolled not toward a jumble of mountains, but toward a broad sandy beach that stretched like a ribbon due north, and due south, for as far as we could see. Now in January, there was not a soul on the beach, save for a flock of silent gulls that stood facing the wind.

“If you look out there,” Rasmus pointed toward the Atlantic, “you should be able to see the Horns Rev wind farm, the first offshore wind farm built by Danish Wind.”

Peering toward the horizon, we could see a multitude of tiny turbines, like a flock of mosquitoes, silhouetted against the last fading daylight.

“Those turbines have been through some big storms, and they’re still turning.”

A thousand years ago, the Vikings of Norway and Denmark had built superb ships, able to weather oceanic storms all the way to England and Ireland and Iceland and Greenland, and once, to America. Today, modern Vikings were still catching the wind, though they did not need their swords any more.

We had dinner at a restaurant in Videbæk, where the waitress was delighted to see twenty-four customers walk in. Then we rolled beneath the stars through Herning and Ikast and Silkeborg. At that point, I leaned forward from my seat and asked Rasmus if we might stop to visit the wind turbine which we had visited that morning.

“You want to stop?” he asked, surprised. “At night?”

“Yes. I want everybody to see that turbine under the stars. Tonight, the sky is crystal clear.”

So Rasmus pulled off Route 15 and drove a short distance to the snowy field, faintly lit by a rising moon in the southeast, not quite half-full. Rasmus said through his speaker system, “We stop here for fifteen minutes. Johan Erik would like you to freeze your feet while you look at the wind turbine beneath the stars.”

Cheers and moans came from the students behind us. We all put our coats back on, and our hats and gloves, then we descended the steps of the bus and walked across the glowing snow toward the silhouetted turbine. The closer we approached, the higher the moonlit blades—spinning in a steady wind from north-northwest—rose into the stars.

We could hear the *whoosh whoosh whoosh* of the blades . . . in the silence of the winter’s night, in the silence of the universe above us.

We had seen today the axel and gear box and generator, and the spot where the cable would be attached, the cable that would take the power in the wind and carry it as the power of electricity. So when we took our hats off and pressed our ears against the tower’s incredibly cold steel on a winter’s night in January, we listened to the rumblings high above us, echoed in the tall hollow tube, as if we were listening to the workings of an old friend.

We had fifteen minutes, as Rasmus had told us. We had already used five in getting off the bus and walking here. My time was limited.

I walked to a spot about ten meters from the tower. When I faced the group, the apricot moon lit my face.

“Where are we?” I asked, with a voice loud enough that all conversation stopped as everyone looked at me.

“Well,” I turned and pointed north, about three-quarters of the way up the sky, “there is the North

Star. Polaris. Here in Denmark, it is not as high as our North Star in the Lofoten Islands, where it is almost straight overhead.”

I pointed, “And there to the right of Polaris is our old friend the Big Bear. Some call it the Big Dipper. Tonight, the dipper is standing on its handle.”

Everyone looked—Wasim looked, Rashida looked—with dark faces at the familiar constellation. “Now if we turn toward the other end of the sky,” I said, facing southeast, “we see Orion with his belt of three stars, striding across the sky. And leaping behind him is his dog with the bright eye.”

I paused, then I added, “Every fisherman knows these stars.”

I walked a few steps, following the beginning of a circle ten meters from the tower.

“But tonight we are not at sea. We stand on solid ground at the foot of a wind turbine.” I looked up and pointed at the brightest star overhead. “There you can see Capella, the Queen of Winter. The blades are catching star dust tonight.”

Everyone stared up at the blades spinning amidst the stars.

“Where are we?” I asked again. “I would tell you: we are standing at the beginning of what Rashida calls ‘a new civilization’. We are standing in front of an open doorway, where we must make a decision, ‘Do we, or do we not, step through that doorway into a totally new future?’”

I paused. We could hear a distant truck shifting gears on the highway.

“Yesterday and today, we saw that future. We saw the multitude of blessings that the wind and the sun could bring to the world. We saw bright, educated people working together. We saw men and women from a dozen different countries working together as equals. We saw people who do not focus on the injustices of the past, but who instead imagine what the world *could* be . . . at the end of the twenty-first century.”

I walked a few steps along the circumference of a circle around my audience.

“But,” I said with a sharp voice, “we all know that the oil companies are going to suck every last dollar out of the ground. They can’t wait for the polar ice to melt, so they can start their drilling.

“And we all know that the coal companies are going to keep digging for coal for many years to come.

“We know that the armies of the world are not going to suddenly vanish.

“We know . . . that we have brought with us into the twenty-first century a lot of bad habits from the twentieth.”

I walked, until the moon to my right lit half my face.

“Maybe it is not just students who need to go to school. Maybe, once in a while, a civilization in great danger needs to go to school. To learn in detail about the dangers that threatens us, and to learn what we might do, together, as we rise to the occasion. To learn, as Rashida calls it, ‘a new way of thinking’. So that rather than plunge into a long sequence of global catastrophes, we launch together into an unprecedented renaissance.”

I walked until the moon was behind me.

“We are taking baby steps, when we need to be taking giant strides. Because the polar ice cap is rapidly melting. The next thing to melt will be the permafrost, the frozen tundra that wraps like a ring around the top of the world. Deep in the frozen tundra are ancient plants that lived between the comings and goings of glaciers, eons ago. Those plants—tundra moss, heather, bushes, perhaps small trees—grew during the warm periods of the Pleistocene Epoch . . . then they were covered, and preserved, by glaciers during the subsequent ice age. The glaciers receded from our northern lands about twelve thousand years ago, but much of the permafrost—the underground blanket of ancient plants—is still frozen.”

I walked a few steps.

“There is something more than just frozen plants in the permafrost.

“The plants of the ancient tundra, much of it wetland and bogs, decomposed when they died, as plants decompose today. The bacteria which fed on them—in a cold, wet environment—produced methane, a gas that slowly bubbled to the surface. When the glaciers came, covering vast areas of tundra and bogs around the world, the ice capped the methane, trapping it.

“Twelve thousand years ago, the sheet of glaciers departed from Scandinavia and Russia and Alaska and Canada. But the frozen tundra in the far north remained frozen. Until . . . we arrived with our engines, and spent two centuries spewing vast amounts of carbon dioxide into the atmosphere. As you know, carbon dioxide allows the sun’s light to pass through the atmosphere to the Earth, but once the light converts to heat, the carbon dioxide will not allow that heat to pass back through the atmosphere into space. The carbon dioxide forms a blanket, ever thicker, around our warming Earth.

“That warming causes more and more of the tundra to thaw. The thawing tundra releases ancient methane gas. Methane gas is far more potent as a greenhouse gas than carbon dioxide. Methane forms a thicker blanket, trapping much more heat. So when the tundra thaws, releasing methane, that methane warms the world even more quickly, and thus the tundra thaws more quickly, releasing more methane. The system feeds itself, until vast amounts of tundra have thawed, releasing methane on a planetary scale.”

I walked a few steps further in the circle around my audience.

“Once this process begins, *nothing* that we can do will stop it. The gradual warming due to carbon dioxide will become accelerated warming due to methane. Instead of worrying about what will happen if the Earth warms by two degrees, we will be contending with six and eight and ten degrees. We will be living on a very different planet.”

I walked a few steps.

“The good news—if there is any good news in all of this—is that methane breaks down in the atmosphere more quickly than carbon dioxide. Eventually, over the course of centuries, all of the tundra will have thawed, all of the methane will have been released . . . and the amount of methane in the atmosphere will gradually diminish. The Earth will begin to cool. How long all of this will take, we don’t know. Will we ever reach the wonderful life-supporting temperatures that we know today? We don’t know.

“We live today in what is called the Holocene Period, which began twelve thousand years ago with the retreat of the glaciers. For twelve thousand years, the climate has been fairly stable, allowing the development of irrigation and agriculture along the banks of the great rivers. Allowing the development of writing, and mathematics, and even poetry. We have come an enormous distance in our twelve thousand years. But we are about to lose our Holocene Period, this extraordinary gift which we have been given.

“We are about to squander it. Our carbon dioxide is about to trigger an explosion of methane, much as a smaller bomb triggers a nuclear bomb. And then, our grandchildren—those who still survive—will look back at us today with outrage. With hatred even. They will wonder, *Why* didn’t we do something?”

I walked until the moon was to my left, lighting half my face.

“When the tundra thaws, the water drains into the sandy glacial layer below. The tundra thus becomes dry, like a sponge that has dried. Now it can burn. During the summer of 2010, and again in 2012, wildfires burned across the Russian tundra. Drought and excessive heat—the average temperature in Siberia during the summer of 2012 was 34 degrees (93 degrees F)—baked the melting tundra, deeper and deeper into the Earth. Methane bubbled to the surface. The fires raged out of control. Russian

planes dumping water tried to put the fires out, but the ancient tundra burned deep beneath the surface. Only heavy rain could put out those fires.”

I walked a few steps further.

“We are about to squander the gift of healthy life on this planet, the only planet we know,” I swept my hand toward the stars overhead, “in our very big neighborhood. We are about to squander the gift of life, which must be, in any religion, a great sin. We are about to squander a moment precious in the history of the universe: twelve thousand years when we went from hunting the woolly mammoth to listening to Beethoven’s Ninth Symphony. We are about to say to the Creator, ‘Maybe you’ll do better somewhere else.’”

A few more steps.

“We have a choice. We can embark on that new civilization, and see whether a surge of wind turbines and solar collectors sweeping around the world can limit, and maybe even halt, the melting of the polar ice cap and the thawing of the tundra. We could see whether it really *is* possible to work together. We could tap the talents of girls and women, talents which have been neglected for thousands of years, at least. We could leave behind the worst that is in us, and nurture the *best* that is in us. We could launch into a renaissance, and turn it into everyday life.”

I walked until I had completed the circle, so that I now looked our group with the light of the apricot moon full on my face.

“Our generation—even you boisterous sixth graders—has an opportunity that no other generation has ever had. We can become designers and builders of a clean energy system that wraps around a healthy Earth. And we can become, by working together, the architects of peace. We have it in us. I genuinely believe that we have it in us to become the people that our Creator intended us to be.”

We could hear the *whoosh woosh whoosh* of the blades above us.

“Now,” I laughed, “I think that Rasmus would like us to get back on his bus.”

As we walked across the snowy field on nearly frozen feet, Rashida appeared beside me.

“*Shukran*,” she said. “Thank you.”

Chapter Twenty-Three

Gifts I Have Given

I could have stopped with a sphere of compacted dust.

I could have stopped with barren rock surrounded by barren sea.

I could have put that sphere a bit closer to the star, so that the sea boiled until it vanished.

I could have put that sphere a bit further away from the star, so that the sea became an eternal sheet of ice.

Yes, the orbit of that sphere was my first work of perfection.

And of course, I did not need to bother with a moon.

That entirely superfluous ornament might well have been added to the moons of Jupiter.

A bauble, waxing and waning, from slender crescent to half-circle to gently radiant orb: to what purpose?

Aaaahhhh, so that by pulling the sea, the sea could breathe. The tide flows in, the tide flows out, cleansing, nurturing: the first steady heartbeat.

I could have stopped with the unprecedented complexity of one-celled bits of green able to turn sunlight into sugar. Wasn't that miracle enough?

I could have stopped with the lacy frond of a fern, able to scatter spores—microcosms of information in a tiny black speck—onto the fertile ground.

I could have stopped—I could have called it quits—with the invention of clams.

I could have stopped with the ingenuity of a feather.

I could have stopped with a brain clever enough to hunt, passionate enough to mate, and lazy enough to drowse in the African sun.

But teeth and claws were not my ultimate goal.

I still had, in my apron pocket, Friendship, and Compassion, and Love.

What was I to do with Music, as unnecessary as the moon?

And Mathematics, the key with which to unlock so many of my mysteries.

Might not some creature want to say to his companions, "Let me tell you a Story."

And so I took a great risk, and made a brain perhaps too clever.

I made a hand perhaps too dexterous.

For the hand picked up a club, a sword, a rifle,

And the brain forgot friendship, forgot compassion, forgot love,

And remembered rather the ways of snakes.

Oh, so many gifts I gave them, hoping they might become, and become, and become far more than what they had been.

As I set no limits on my own creation, so I set no limits on theirs.

From a song at dusk to a symphony, from notches in wood to a book with chapters, from plucking berries to harvesting a field of golden grain, they were invited to outgrow themselves, generation after

generation.

Beyond the mere tussle of mating, I gave them the magic of falling in love.

Beyond howls in the night, I gave them a soul and then gave their souls a hunger for worship, in a shrine or a mosque or a church or a synagogue of their own choosing.

Beyond sudden and empty death, I gave them a reverence for ancestors, and a belief in eternity which gives them peace.

Such simple things as air to breathe, water to drink, and a firm earth to stand on, are gifts quickly forgotten, until I take away any one of them.

Shall I take away as well the gift of courage, the gift of hope?

What practical necessity required that I bestowed upon them eyes that savored beauty in a mountain, in a rose, in a woman's face?

Wherefore the gift of memory? Might not a mother's voice, a boyhood prank, just disappear?

Wherefore shall they fill a room with laughter? Wherefore shall they raise their voices and sing? Are these not gifts utterly superfluous?

Gifts quickly forgotten, are soon remembered when snatched away.

Let them wander a poisoned Earth when they have little left but the moon.

I do not wish it; they wish it upon themselves.

Then, perhaps, those who survive the centuries of hunger and strife

Will savor anew the gifts of Friendship and Compassion and Love.

Perhaps, they will thank the sun and thank the wind, and dip their cups that they might taste the salty waters of a sacred sea.

Perhaps they will become creatures no longer apart from Creation.

If so, then shall we continue our journey together

Toward what they Might Become,

Were they to bestow their multitude of gifts among each other,

On what could have been merely a sphere of compacted dust.

Falling in Love in Henningsvær

Chapter Twenty-Four

The codfish are coming. They are swimming an enormous distance *upstream*, against the great flowing river of the Gulf Stream. They begin their journey in the Barents Sea north of Russia, where long polar nights in winter and a circling golden sun in summer have been the pendulum of their lives.

They swim in such abundant numbers that they are a river themselves. Each cod is a meter of muscle ending in a great wagging tail. Timing their journey with the tilt of the Earth and the return of the sun, they swim toward the distant waters where they were born.

Over the top of Norway they swim, then south along the coast to the arm of islands reaching southwest into the sea. Here, in water barely above freezing, the males open their fins and tremble, courting the females laden with eggs. Belly to belly they hover, each releasing half of the key to the creation of new life.

This life—contained in fertilized eggs—then flows north on the powerful river of the Gulf Stream. The eggs hatch along the way. Tiny fish wriggle in vast silver clouds, as they are borne over the top of Norway and delivered to their home north of Russia.

The cod need that current. They need water of a certain salinity. They need water of a certain temperature. Should we alter that current in a warming ocean, should we dilute that salinity with the melting ice cap, then we might as well alter the great clock of the sun.

Chapter Twenty-Five



Rashida's house by the sea, with cod racks.

Happiness began to seep into me. Some came from our home by the sea. Some came from the good-hearted family which had adopted us. Some came from my deepening friendship with Johan Erik. And some came in a way that I would not have expected: from a new purpose in my life.

I could never forget the war back home in Syria, but instead of crushing me, the war began to motivate me. The outrage that burned in me—at the brutal deaths of my father and brother, at the continuing butchery in Syria, and at the continuing indifference in the rest of the world—was finally put to good use. That fierce anger never diminished, but I was able to harness it, I was able to *do* something with it, and thus my life acquired a new purpose. A purpose that gave me strength, and confidence, and a growing measure of happiness.

It happened, most unexpectedly, in the Henningsvær School.

The trip to visit Danish Wind enabled me to meet a number of Norwegian students, especially Vibeke. Whereas I had been at first repulsed, during my one and only morning at the school, by the laughter and oblivious chatter of students who could never understand me and the war I had come from, I realized in Denmark that they were not so oblivious, and that they truly did want to understand who I was and where I had come from. Their offer of friendship was genuine.

And so on the Monday after our return to Norway, I tried again. Vibeke had talked with the other

students, and they then conferred with the teachers, who agreed to teach three of the most important classes, biology, mathematics and Norwegian history, in English. Vibeke told me that if I was going to have to work extra hard to catch up with them half way through the school year, then they would work extra hard to improve their English.

I was enormously grateful.

In English class itself, I found that though my vocabulary lagged behind, I had a good foundation in English grammar and thus, with some dictionary work, could soon catch up.

Rather than take the class in Norwegian literature, I spent an hour each day with a grade school teacher who tutored me in Norwegian. This daytime tutoring, combined with Laila's tutoring in the evening, enabled me to begin to understand some of the Norwegian around me. I now practiced with Vibeke, I practiced with Johan Erik—as my brother Wasim practiced with his great friend Sigurd—picking up the small phrases of daily conversation.

Every weekday evening, Johan Erik and Sigurd would join my mother and Wasim and me in our classroom upstairs at their grandparents' house. Sigurd would tutor Wasim in Norwegian; Wasim would tutor Sigurd in math. Laila and my mother were deeply absorbed in reading a Norwegian fairy tale about a poor but clever boy who eventually won the heart of a princess. Johan Erik and his grandfather Olav took me page by page through an illustrated children's book, in which all the parts of a fishing boat were labeled, and all the parts of a bird, and all the parts of each room in a house. Using the vocabulary in simple sentences, I described Olav as the captain of his boat, Johan Erik riding a bicycle around a farm, and Olav again (much to his delight) baking a cake in the kitchen.

One evening, Johan Erik arrived with a computer no longer used at the reception office, so that Wasim and I could follow the war in Syria on Al Jazeera. That was the difficult fate of a refugee: to live in two worlds, one that can never be forgotten, and the other which is too often interrupted. It was as if Wasim and my mother and I had two hearts: a battered heart filled with pain; and a heart that grasps at all the good it can find in this peaceful foreign world, so that it can rest and gather strength.

Though I loved to look out my bedroom window at the blinking lighthouse and the sea beyond it, though I loved to listen to the waves washing over the rocks close to our house, I needed to look as well at the YouTubes on Al Jazeera, so that I could return to the devastated streets of Aleppo.

My heart was thumping with apprehension as—after five weeks of peace in Henningsvær—I googled Al Jazeera. My mother sat on one side of me, Wasim sat on the other side. Johan Erik and Sigurd stood quietly behind us, watching over my shoulders. Laila and Olav were downstairs, making hot cocoa and buttered toast, as they did every evening after our lessons.

Among the dozen news items that appeared on the screen (each represented by a small rectangular picture), was—I spotted it immediately—the shattered façade of a classroom building at the University of Aleppo. I clicked on the picture; it became large enough that the three of us from Aleppo could see that the walls of several classrooms had been blown away by explosions. Windows across the entire building had been shattered. A burnt car lay upside down and smoldering in the foreground, surrounded by people milling in the rubble.

The University of Aleppo! My dream had been to study there in two years. It was close enough to home that I would be able to ride my bicycle to classes.

Leaning forward, the three of us read the article in Arabic. Two bombs, or missiles fired from government planes, had struck the building on Tuesday, January 15 while students were taking exams. Eighty-two people had been killed; one hundred ninety-two had been wounded. The University issued a statement saying that the Syrian Air Force had targeted the building; MIG fighter planes had fired two

missile attacks three minutes apart. The weapons used by the Free Syrian Army—my father’s opposition militia—were not large enough to cause such destruction.

Eighty-two people killed . . . most of them students trying to live some semblance of a normal life in the middle of a war.

Once again, our President Bashar al-Assad had sent his butchers to murder his own people.

With Russian planes, and probably Russian missiles. For Russia was Syria’s most important ally, keeping Assad’s forces well stocked with weapons.

My mother stood up from her chair. “I am not ready,” she said. “I am not ready.”

I thought for a moment. On Tuesday, January 15, we had been in Denmark, visiting the Danish Wind blade factory. That evening, we had stood at the base of a wind turbine, looking up at the blades spinning among the stars.

On that wonderful day, perhaps while we were taking pictures of each other in the factory with the tip of a giant blade behind us, the Syrian government had attacked the students at the University of Aleppo.

Wasim pointed at the last paragraph in the article, then for the first time in my life I heard my twelve-year-old brother curse with a horrible word.

I read, “The United Nations has estimated that more than 60,000 people have been killed in Syria since the uprising against Mr. Assad began in March 2011.”

“Almost two years,” Wasim said, for we were now near the end January in 2013. “And still nobody stops it.” He spat the words, “The most they can do is count how many of us have died.”

“The United Nations gave us our tent,” I reminded him.

“Right, while Russia gives Assad all the war planes he needs.”

“Wasim, where is Saudi Arabia? Where is Egypt? Where are our loyal Arab brothers? They could stop this war in a week if they wanted to.”

Wasim cursed again.

I stood up from my chair. Wasim could read more if he wanted to. I needed to . . . I glanced at Johan Erik, baffled, for he of course could not understand our Arabic. Then I hurried out of the classroom and went down the hall to my bedroom, where I opened the window and leaned out into the cold air and listened to the waves washing over the nearby shore. The lighthouse blinked in the distance, as it blinked every night, far from the madness of war.

Moments later, Johan Erik stood beside me, the first time that he had been in my room. Immediately I thought: Here I am, a young Arab woman with a man in my bedroom.

“Rashida,” he said, his voice quiet but firm, “is there anything I can do to help?”

“Yes,” I said, making room for him at the window. “Help me to stop this insane war.”

With his hands on the window ledge, and a clear distance between us, he too leaned out into the cold air. There were no stars, only the darkness of clouds.

The lighthouse—warning boats of the danger of rocks, guiding boats through the darkness of night—maintained its steady blinking.

“Rashida, I used to ask what one sixteen-year-old kid can do . . . about the world we live in. Now I ask, What can two sixteen-year-old kids do?”

I loved the sound of the sea washing over the rocks. I had lived here for a little more than a month, and already my Norwegian heart loved the sound of the sea washing over the rocks.

“Johan Erik, when there aren’t just two of us, but a million of us, then I think we’ll be able to do something.”

He looked at me, his face half-lit by the glow of a lamp in my room. He was no longer baffled.

He said with confidence, “Rashida, that’s exactly what I think.”

I didn’t ask him how he thought we were going to find a million others.

We, together, listened to the sound of the sea washing over the rocks. Until we could smell hot cocoa, and heard the voice of Olav in the hallway, asking in Norwegian, “Where did everybody go?”

“*Vi kommer,*” I called to him, turning from the window. “*Vi kommer.*” We come.

We gathered in the classroom—Wasim had turned off the computer—and drank our hot cocoa together. I could tell by my mother’s eyes that she had been crying. I could tell by Laila’s eyes that she saw it too. But my mother was strong. And Laila and Olav were strong.

Their Norwegian hot cocoa warmed my heart.

The sixteen-year-old boy beside me, who seemed to understand me, and to support me, and perhaps, even to believe in me, warmed my heart as well.

Chapter Twenty-Six



Henningsvaer School.

The following day, in Norwegian history class, our teacher, Ms. Gro Bjørnsen, was summing up—in English—the enormous progress made by Norway during the nineteenth century. In 1814, as a result of the Napoleonic Wars, Norway not only broke free from over four hundred years of colonial status under Denmark, but—in a burst of progressive thinking—wrote a Constitution for itself. Though Norway quickly became a colony of powerful Sweden, it still had its Constitution, and a taste of freedom. One day, it would stand on its own independent feet.

With that hope, with that pride, with that belief in itself, Norway blossomed like a mountain meadow in springtime. Literature flourished; many of the most important stories and novels were written by women. Musicians traveled throughout the country, collecting the old folk songs and writing them down so that they would never be lost. Scholars of language traveled throughout the country, transcribing the many dialects so that they too would never be lost.

Ibsen's drama thundered on the world stage.

Grieg's exuberant piano concerto was played in concert halls from Berlin to New York.

Paintings of the Norwegian mountains appeared in galleries throughout Europe.

Fridtjof Nansen and his crew on the *Fram* spent three years exploring the frozen north, and returned as international heroes.

And then, in 1905, without a single soldier killed in battle, Norway negotiated her freedom from Sweden, and became, for the first time in over five centuries, an independent nation.

“Look at what we accomplished,” said Ms. Bjørnsen, “from 1814 to 1905. “Norway built her political and cultural foundation during those ninety-one extraordinary years.”

Although the students around me could feel justifiably proud of their country, I, as a Syrian, could look back at our colonial status under Turkey, our colonial status under France, our brief period of tumultuous independence, and then our subjugation under a dictator, and now under the dictator's horrid son, with only frustration and bitterness.

When the Arab Spring began in Tunisia, then swept into Egypt, our tiny spark of hope was kindled into a small flame. In March of 2011, in the town of Ham'a, a group of boys painted "Freedom" on the wall of their school.

They were arrested and tortured in prison; one boy was tortured to death. The people of Ham'a responded with peaceful demonstrations; government troops responded by shooting into the crowds.

And so began the uprising that became a civil war all across the country. Men with rifles stood against tanks and helicopters and jets. Schools became prisons. Men and boys became martyrs and women became widows.

Such were my thoughts in history class when I heard Vibeke say, "Rashida, would you tell us about Syria? If you don't want to talk about the war, tell us about Syria before the war. You have such a rich history, going back thousands of years."

The students around me were quiet, expectant. Johan Erik was watching me, his eyes offering encouragement.

"Yes, Rashida," said Ms. Bjørnsen, "we would very much like to hear about your Syria."

"I . . ." I saw no point whatsoever in speaking about the Phoenicians and the Greeks. Nor about my childhood, growing up in a police state. I could not possibly try to describe the terror and chaos of an artillery shelling in our neighborhood at night. If they really wanted a taste of it, they could watch my brother's YouTubes, taken during a battle in the streets . . . before, as I guessed, a sniper ended his young life.

And so I responded not with some well organized synopsis of history, but—they poured out of me—with questions. Looking around at my fellow students, I asked them, "Why do people torture and kill their own fellow citizens? How do we stop a civil war? How do we remove the hatred, the demand for revenge, the sense of injustice, that will cause the *next* war?"

Johan Erik was watching me, with eyes that understood me, and supported me, and believed in me.

I turned to Ms. Bjørnsen, no longer at the blackboard but now standing at the front of her desk. I said to her, "We study history. We study the past. But we need to study as well how to build a better future. Every nation has military schools and camps to train the soldiers of war. But do we have schools to train the architects of peace?"

Johan Erik raised his hand, but spoke before the teacher had called on him. "Rashida is absolutely right. We have to plan the future, to *build* the future, to *determine* the future, and the time is now.

"Because the wars that climate change will cause are going to be an entirely new type of war: unprecedented, global, and without end. A new kind of war, as people fight not for freedom, or oil, or to re-establish an old boundary. They will fight—because of drought, or flooding, or fires—for food and water and land in someone else's country. Migrating people, desperate people, will forever alter the map."

He thumped his fist on his desk. "We need to educate tomorrow's engineers of clean energy, and we need to educate, as Rashida says, tomorrow's architects of peace. Because all of this mess is going to be dumped into *our* laps. So it's *our* job to be a lot more clever than the people who came before us. If we want families and homes and jobs in the twenty-first century, then we've got to start building that new future . . . now."

All of that burst out of him—an explosion of outrage after years of solitary frustration—in a classroom in Henningsvær School.

Ms. Bjørnsen walked to a classroom window and stared for a long moment at the sea and distant chain of mountain islands . . . until she turned to us and said, “Then I propose a new course at our school. It would include . . . a month or two during which we investigate all the various aspects of climate change, around the world. In other words, we look at The Problem. And then . . . a month or two during which we investigate all the various aspects of clean energy. What is happening today, in various countries around the world, as people harness the wind, as people harness the sun, as people harness the ocean tides? In other words, we look at The Solution. Or at least, one of the solutions, for I think that there are many possible options which we have not yet tried.”

She looked at us, looked at the faces watching her, as if wondering, Was it possible?

“And then . . . a month or two during which we investigate the causes of war. The old hatreds. The profiteering. The unquestioned acceptance that war always was, and so it always will be.”

Her eyes lit with an enthusiasm which I had not seen before, during ordinary class. “And then a month or two during which we investigate how to move our thinking from the twentieth to the twenty-first century. How do we build a strong and lasting peace, for *all* of the peoples of the world?”

In that moment, I felt a burst of hope. Here in this fishing village built on rocky islands out in the sea, someone was questioning the acceptance that war always was, and so it always will be. Finally, someone was questioning our long march to the graveyard.

Ms. Bjørnsen walked to the front of the classroom. “Rashida and Johan Erik, perhaps you could lead an effort to develop a new course, or a program of courses, by working with our students and teachers, and anyone else who might have some input. I think that we should reach out to the community.”

I immediately thought of Doctor Jacobsen, treating the victims of a hideous war. *He* would have some input.

“Perhaps,” she continued, venturing ahead in her thoughts, “we could begin our new course this spring. A shortened version, anyway. And then in September, we could launch a year-long program.”

She looked at me with the excitement of a teacher who has just thrown the old lesson plan out the window. “Rashida, what do you say?”

I hesitated. This was all so much.

She turned to Johan Erik. “You have been telling us for years that we need to harness the wind and the sun. What if we harness Johan Erik and Rashida?”

“But,” he asked, “is anyone interested?”

Vibeke told him, “We are *all* interested.”

A murmur of agreement filled the classroom.

“All right,” said Johan Erik, “then I accept this new job.”

Now I could speak. “All right. I accept this new job.”

Vibeke began to clap; the room was quickly filled with applause.

And so, on the last day of January, 2013, in the little village of Henningsvær, above the polar circle in northern Norway, I was given a purpose. My life was given a purpose. A purpose that gave me strength, and confidence, and a growing measure of happiness.

I had heard the appalling explosion in the middle of the night when a missile hit the apartment building next door. I had ridden with my mother and brother in the back of a crowded truck beneath the stars to the border with Turkey. We had lived for months at the edge of war, with shattered families for neighbors, artillery in the distance, and food doled out meal by listless meal. We had flown in an airplane

to a strange land, where people welcomed us to . . . we didn't know what. We had ridden a train north to a cold dark place where the sun never shone. We had sailed on a boat across a dark sea, with black mountains behind us and black mountains ahead of us. Until finally, Doctor Jacobsen and his family welcomed us to their home.

But even that was not enough to free me from the nightmares of the past. We were safe, but the war continued. My mother especially struggled with her black moods.

Today, however, a door opened toward the future. A future different from any other future in human history. Because we would design it. We would build it. And we would share it with all the peoples of the world.

In Norway, I was given a purpose. And happiness began to seep in.

These are the thoughts of a girl named Rashida, no longer so alone.

We shall plan. We shall build. We shall do the work that our Creator hoped we would do.

Inshallah.

Chapter Twenty-Seven



Vågakallen, the wall of mountains north of Henningsvaer.

Johan Erik knew more about climate change than anyone else in the Henningsvær School. He knew more about clean energy, for he read an online newspaper every day about wind turbines and solar collectors around the world. And he knew an increasing amount about the war in Syria, both from watching Al Jazeera and from talking with me. So he could have taken the lead as the chief organizer and main speaker of our new project.

But he didn't.

Instead, he was masterful at getting other people involved, both as organizers and as speakers. During the remaining twenty minutes of our Norwegian history class, he proposed to the fourteen students in our tenth grade that we each pick a topic in the broad field of climate change—"A topic which interests you."—do the research, then make a presentation to the class. "A ten-minute talk, introducing us to the polar bears, or ocean acidification, or the pollution from high altitude passenger jets. I think it would be good if we started out by teaching each other."

That was his method. Not to give a lecture, but to encourage all of us to do our own investigations. And then to share what we learned.

As we walked together after school—in falling snow from low clouds that hid the mountains—on the road that crossed the harbor, he talked about engaging the other students in the school, "down to the sixth grade. They came with us to Danish Wind. Your brother and my brother should be part of this project too."

When we reached his grandparents' house, which was my house as well—the red house which I loved so much had become the heartbeat of our merging families—we found that both Laila and Olav were home. They were upstairs in the classroom with my mother, reading a chapter of the Koran from two books, one, my mother's in Arabic, and the other, which Laila had ordered from Oslo, in Norwegian.

Johan Erik and I peered in through the door, but did not want to disturb them. My mother, however, smiled at us, her face filled with peace, and said, “Nei, nei, vi er nettopp ferdig.” We are just finishing.

So we entered the classroom, where Johan Erik told the three adults—I translated into Arabic for my mother—about our new project. “I think that we're going to call it ‘Architects of the Future.’” He looked at me, as he did so often, seeking my thoughts. “We talked, you and I, about calling the course ‘Architects of Clean Energy and Peace.’ But now I think that we might broaden the course, to include . . . building an entirely new future.”

“Yes,” I said. “Architects of the Future. We're going to design, and we're going to build.”

“Exactly.”

Then, once again getting other people involved, he asked his grandmother, a retired teacher, if she would help him to organize a program of new courses. He asked his grandfather if he would talk with the other fishermen; maybe a group of them could visit the school one day, to meet with the students and talk about what they had experienced at sea. “Changing weather, changing seasons, unusual winds. All the aspects of climate change that you've experienced over the years.”

Turning to my mother, he asked her what she would like to contribute. Maybe she and I could prepare a presentation together, for the students at school.

My mother looked at me. Might she really have something to say to a group of Norwegian students?

“When you are ready, Mama. When you are ready.” I knew about her dark moods; the war was still very much with her.

As we went down the stairs to the dining room for an after-school snack—Laila and my mother had baked fresh bread, Syrian flat bread and Norwegian round loaves, that day—Johan Erik said to me, “I want to phone Uncle Lars at the hospital. He was there with you in the refugee camp. I think that he would have a lot to contribute.”

“Of course.”

I could see that Johan Erik wanted to share his excitement with Uncle Lars. He would phone him at the hospital; he couldn't wait for him to come home this evening.

I was half-way through a piece of my mother's flat bread, rolled in the Norwegian style around jam made from wild cranberries, when Johan Erik appeared in the dining room, holding his mobile phone and beaming. He said to me, “Uncle Lars wants you and me to have dinner with him and Aunt Louise this evening. He told me that he wants to celebrate our new project.”

And so I found myself as an honored guest at an elegant, candle-lit table, seated in my blue *abaya*—United Nations blue—beside Johan Erik in the suit that he wore to church. Across the table from us sat Uncle Lars and Aunt Louise, also dressed in their finest. They had prepared a feast of broiled salmon, potatoes with melted cheese over them, and asparagus *à la française*.

That evening, I was no longer a sixteen-year-old girl. I was spoken to as a young woman about to embark on the sort of work that adults would do. Or *should* do, if they bothered to do it. Aunt Louise, who worked as a librarian in Svolvær, suggested a half-dozen books that I might want to read, in the field of peace.

Uncle Lars suggested that once our Henningsvær School had developed a working program, we should hold a conference with the other schools in the Lofoten, “so that you can introduce an entirely new

approach to education. It's time we showed the stiff shirts down in Oslo that we in the north are quite capable of taking our schools into the twenty-first century."

We talked until late in the evening—never mind that we had school and jobs tomorrow—about so many things that Johan Erik began to write notes in his school notebook. He looked at me again and again, his eyes bright with each new thought, his face in the candlelight so full of life. All of this, *all* of this, he wanted to share with me.

As we walked for a second time together on the road that crossed the harbor, we could see the pale white glow of the snowy mountains, for the sky had cleared and the stars shone down on the peaks that reached up to them.

Johan Erik was quiet now, savoring, as I was savoring, the extraordinary evening. We walked beside each other, and it would have been so nice to reach out and hold his hand. We wore gloves; it would be nothing intimate. Who would see us? Only the mountains, and they would tell no secrets.

And so I did. I took his gloved hand in mine and gave it a squeeze. When he looked at me, a bit surprised, he squeezed back. A surge of happiness went through me.

We held hands until we approached my house. The side wall was black in the night, but the front wall was red near the lamp by the front door. Discretion took over; we let go of each other's hand and walked separately.

A light was on downstairs in the living room, and upstairs in my bedroom. All the other upstairs windows were dark.

Would we kiss?

Well, I might reach out for his hand, but I would not initiate a kiss.

"Rashida, I won't come in. They're all in bed. We missed our hot cocoa."

We faced each other, his handsome face faintly lit by the stars.

"Will you wait here for one minute?" I asked him.

"Here? Sure. Are you going to get something in the house?"

"Just wait here."

"All right."

I climbed the steps to the door, pulled it open, hurried inside, glanced out at Johan Erik—he was watching me with a faint smile—then shut the door and went quickly in the glow of a living room lamp up the stairs to my bedroom. I went straight to the balcony door and opened it . . . then I stood out on the balcony, looking down at the young man who looked up at me and laughed.

He put his hands over his heart. "Rashida, today was the beginning."

I put my hands over my heart. "Johan Erik, today was the beginning."

I could hear, and he could hear, the waves washing over the rocks of the nearby shore.

Chapter Twenty-Eight



Clouds over distant Lofoten Islands.

Never before had I felt so much. Nor so much that was entirely new.

The Christmas season was over. Rorbu 16, my sanctuary on the island, was empty. I could spend the night on the island, eat breakfast at home tomorrow morning, and arrive at school by eight o'clock. That would give me a place and time to think, never mind that I might be a bit sleepy in mathematics class.

So I walked from Rashida's house (as I thought of it now) first toward the mountains that knew our secret, then hooking right, toward bright Jupiter ahead of me in a crystalline sky, to Henningsvær Rorbuer, the family business which all but robbed me of my parents.

Ingvill was working the late shift at the reception desk. As always during the quiet hours, she was studying French. Her dream was to live in southern France, become a master chef, then return to Henningsvær and open her own French restaurant.

She filled a thermos of coffee for me, reminded me to take out a load of firewood, then went back to her French.

My parents would know where I was; no need to phone them at this late hour. I could tell them tomorrow at breakfast about our dinner with Uncle Lars and Aunt Louise.

With an armload of firewood, I walked down the ramp to the floating dock, set the wood in the bow of the little boat, untied the lines and headed out under the jubilant stars toward the dark cabin on one of a dozen snowy islands sprinkled around the periphery of Henningsvær.

With a fire burning in the stove, I stood outside on the starlit porch in ankle-deep snow, drinking

Ingvill's strong coffee and marveling at what it was to fall in love.

Especially, when I knew that the girl felt the same way about me.

This wasn't the "maybe, maybe not" uncertainty which I had felt with my ex-girlfriend (the one who called me "Intense").

Though Rashida came from a completely different culture, and though I would never be able to understand what it was to be caught in a war, we shared . . . a refusal to accept the world as it was. We shared . . . a determination to build something new. Not just for us. For the people still trapped in the war in Syria.

And for the living creatures—all of us—who depend on the cradle of life washing over the rocks just beyond the porch railing.

Our world was bleeding at one end, melting at the other. The time had come to say, No more. And we would say it together.

I knew, with absolute certainty, that Rashida was the one.

To be given such a gift so early! I was only sixteen. Some people wandered half their lives before they found the right one. Some never did.

I would have to learn Arabic. Well, I could do that.

She wanted to be a doctor, a surgeon like Uncle Lars. Well, on the day she graduated, I would give her a bouquet of red roses.

And of course, she wanted to go back to her Syria, not, as she said, to rebuild her country, but "to build a *new* country."

Well, maybe Danish Wind would need a project manager in Syria.

And children? Zainab would be their grandmother. You can't do any better than that.

So . . .

I looked out at the bright stars of Orion's shoulders, and the fainter three stars of his belt, as he strode over the dark waters of the Vestfjorden to the south. I could see the bright eye of the hound that leapt behind him.

Tonight, I felt as big as Orion, with a shivering energy inside me more powerful than anything I had ever felt before. I marveled that, beneath all the stars in the enormous sky, on this tiny fragile Earth, a person could exist who felt so much!

This love that had awakened in me . . . Who had put it into our hearts?

This love alone, this exuberance, this towering joy, were proof enough of a Creator who was not content merely to bestow life upon the world.

A small part of that life which he created had been given—certainly without deserving it—the most extraordinary gift. For though a leaf could turn sunlight into sugar, it could not love.

I felt more alive on this night than I had ever felt before. And yet, as we had told each other, today was the beginning. Just the beginning.

If I could have written a poem, it would have been a prayer.

If I could have written a symphony, it would have been a prayer.

A prayer of gratitude, for all that we had been given. And a prayer that was also a promise, that we would not squander our gifts.

I slept that night with the bedroom window open. I heaped the bed with wool blankets and wore a wool cap in the cold room. I wanted to hear the sea washing over the rocky shore. I wanted to hear the

cradle of life, wrapped around my little island.

Chapter Twenty-Nine



Galleri Lofotens Hus.

On the first Saturday of February, our two families—minus, of course, my mother and father who were “buried in work” at the Rorbuer—visited the art gallery that I loved so much. At *Galleri Lofotens Hus*, paintings by a dozen artists showed the history of fishing in the Lofoten Islands. One contemporary painter, Karl Erik Harr, had an entire floor to himself, for his paintings went far beyond capturing history.

There was photography as well. In a small auditorium, people could watch a twenty-minute series of gorgeous pictures of whales and eagles and weather-worn fishermen, all accompanied by stirring music. And on the third floor of the gallery, in what had once been the warehouse loft, were old black-and-white photographs by A. B. Wilse—enlarged to nearly life size—from the time when fishermen sailed their boats, rowed their boats, and hauled in their nets by hand.

My grandfather would stare at a painting by Karl Erik Harr—the paintings were big, three meters by four, so that they took you *into* their world—of a *sjark*, a fishing boat with a motor, much like his own, lifted by a huge green wave and leaning steeply, as if the boat of many tons were a bit of cork. Then the old fisherman would point at the mountains in the background, mountains which he knew well, and begin a story that Sigurd would translate from Norwegian—the Lofoten dialect of Norwegian—to classroom Norwegian, with a bit of English when necessary, for Wasim. (Thus Olav replaced me—the grandson who had drifted off with a girlfriend—with two more-than-adequate listeners.)

Laila coached Zainab through a simple description in Norwegian of each painting, while building vocabulary based on old boats and the sea. A flock of ducks flew close to the foaming crests of the

waves. Northern lights shone over a primitive fishing camp. In one painting that Zainab especially liked, by Gunnar Berg, a great jostling crowd of fishing boats was sailing out from Svolvær harbor for a day of fishing; in the background towered snowy jagged mountains “almost as magnificent,” declared Zainab, “as the mountains of Henningsvær.”

Uncle Lars and Aunt Louise stayed with Rashida and me as we looked at a series of etching by Karl Erik Harr. Some were lonely landscapes in the north: an old fishing boat pulled up on land, slowly deteriorating in the harsh winters; behind the abandoned boat towered the eternal mountains. Some of the etchings were illustrations for the novels of Knut Hamsun, and some were illustrations for the poems of Petter Dass, the great poet of the north.

Aunt Louise marveled at Karl Erik Harr’s “superb sense of composition.” She pointed again and again, as we looked at both the paintings and the etchings, at the balance between a boat’s tilted mast and the slope of a mountain, or at the dark clouds churning in the sky and at the silver-green water churning in the sea.

“There is so much *movement* in his paintings. And it’s all in perfect balance. No one can put such energy into a wave about to break. Oh!”

We all gathered together in the auditorium to watch the slides by Frank Jensen which showcased the Lofoten. I remembered that once—as a boy of about ten on a school trip—when I saw the pictures for the first time, and heard the exuberant music . . . I quietly cried. This was my home, and I was so deeply happy to live here.

After everyone had been through the entire gallery, Rashida wanted to look through the older paintings on the first floor one more time. We stood in front of a picture with primitive log cabins on the shore of the sea. Boats with sails and folded oars were moored to a rustic pier.

“Those were the original *rorbuer*,” I told her, pointing at the cabins. “They must have been smoky and drafty and not very warm.”

“Today,” she said, “the *rorbuer* are bright red with white trim. They have big windows, electric lights, and a microwave in the kitchen.”

“Yes, and a laptop on the table, able to reach around the world in a matter of seconds.”

When she looked at me now with her intense dark eyes, I knew she was about to launch into one of our welcome discussions.

“Johan Erik, we have come so far.”

“Who do you mean by ‘we’? You and I, or people in general?”

“People in general. Look at that old *rorbu*, with log walls, tiny windows and a grass roof.” She pointed at the date on the tag beneath the frame, “This picture was painted a hundred and twenty years ago. A little more than a century. Think of the *progress* we have made.”

“Yes, in some ways during the past century, we have made a lot of progress.”

“Then why have we stopped?”

“What do you mean?”

“Why, in so many ways, have we stopped making progress? Those poor fishermen back then had no radios, no weather warnings, no helicopters to fetch them out of the sea and fly them to a hospital. We have so *much* today, and yet we’re still fighting our wars.”

“And we’re still burning the same coal that people burned in the time of Charles Dickens.”

“Yes, and I want to know *why*.”

I considered her question, but did not answer it directly.

“Rashida, that is a question for your fellow students to think about. If we’re going to be

Architects of the Future, then we *all* need to try to answer that question. Otherwise, we continue as Neanderthals forever.”

“All right.” She calmed a bit. “I think that we will have a growing list of such questions.”

“Exactly. Questions that we should have been asking for a long time now. That’s the whole point of the twenty-first century. That’s the whole point of a Renaissance. New questions, and new answers.”

Looking around, we saw that we were alone now, in a small room off from the main room of the gallery. She took my hand and squeezed it. I squeezed her hand and once again felt an enormous surge of happiness.

She looked at me with her dark eyes, deeply happy dark eyes.

Then we let go of each other’s hands and walked with an appropriate distance between us out to the lobby, where Zainab was looking at the postcards, and Uncle Lars was at the shop’s counter, buying a book of Lofoten photography.

Chapter Thirty



Zainab's rocks near lighthouse.

One day when I came home from school in the middle of February, I was met at the door by Laila, who was very worried about my mother.

“She stayed in her room all day. When I knocked on her door, she opened it and spoke to me in Arabic. I could see that she had been crying.”

Twice in the last week, I had been awakened in the middle of the night by my mother, shouting in terror while she was having a nightmare. I hurried to her room and lay down beside her, holding her, until, utterly exhausted, she fell back to sleep. I stayed with her until morning, when I had to get up for school.

But last night, I had not heard her. Maybe I had slept too deeply.

“I’m sorry, Laila.” I was afraid that our family might become a burden on our Norwegian hosts.

“She came downstairs about half an hour ago, in her black robe. I tried to talk with her but she stared at me with the most horrible look in her eyes. Then she put on her boots and coat and went out. She walked on the road toward the lighthouse. I didn’t know whether to go after her, or wait for you to come home.”

“Yes.” I was still wearing my coat and boots. I set my school books down on a table. “I will go find her.”

“She may have gone to a spot that we visit together. A path from the road leads to what a sign calls a ‘scenic view’. We often go there with a thermos of tea after we have finished our lessons.”

“Yes, I have been there with Wasim. My mother has told me that she likes that place very much.”

“Rashida, it’s getting dark soon. Let me get a flashlight for you.”

Laila hurried to the kitchen and came back with a flashlight.

As she placed it into my gloved hand, she asked me, “Should I phone Olav? He’s working on the boat in the harbor. Or maybe I should call Lars. He knows your mother so well, and he’s a doctor . . .”

“Laila, let me try to find her. If I need help, I will come back. She can’t be far.” I did not want people out looking for my mother. She would feel profoundly embarrassed.

“Thank you, Laila.” And then, as I did every morning before I left for school, I kissed her on the cheek. Everything would be fine.

I hurried along the snowy road between empty codfish racks toward the lighthouse that was already blinking in the early dusk of a February afternoon. There were many footprints in the snow; tourists came here to take pictures. I could not distinguish any particular set of tracks made by my mother.

At a sign in two languages, *Utsikt* and *View*, I saw several sets of tracks on the trail. Again, I could not tell if my mother had walked here. But she liked the tall bluff of rocks overlooking the sea. She might well be there, no doubt thinking about the war.

The trail snaked upward between cod racks. I slipped two or three times on the icy rocks hidden beneath the snow. At one point, I called out, “Mama!”

No answer.

She was not atop the bluff. In a buffeting cold wind off the sea, I looked all around, then I followed the trail—still with multiple sets of footprints—beneath the length of a cod rack to where the trail ended above a slope of snowy rocks.

One set of footprints went down that slope. I could see where the person had stumbled and fallen, leaving a large imprint in the snow. Looking further—my eyes searched for a figure in a brown coat and black *abaya*—I spotted her, barely visible. She was down near the water, where the tide had washed away the snow from the black rocks. She was sitting no more than five meters from the sea.

“Mama!”

She turned slowly and looked toward me, but she did not answer. She did not wave. Then she looked back at the water.

I made my way carefully down the slope, slipping on rocks now and then but keeping on my feet. Finally I was able to walk on the black rocks, which were fairly dry. The tide had washed them of snow some hours ago.

As I approached, I asked her, “Mama, what are you doing here?”

She stared at me . . . and I saw in her eyes all the ache and despair from that wretched war.

She sat on a ledge of rock. There was room enough for me to sit beside her, though the rock was tilted and certainly cold.

I wrapped my arm around her and squeezed her.

She stared at the water.

And so we sat together in silence, listening to the sea that tried its best to fill the emptiness in our hearts.

“Johan Erik,” I told her, “calls the sea ‘the cradle of life’. Because life began in the sea.”

Without looking at me, she said, “You have found your Johan Erik.”

I waited, but she said nothing more. So I told her, “Yes, I have found my Johan Erik.”

“I am glad,” she said, turning to me now. “I am glad to know that, before I go.”

I knew what she meant.

“Mama, . . .”

She shook her head. She didn’t want to hear some argument.

“I want to be with Omar.”

Of course. The ache for her husband had never diminished, no matter how far away from the war she had traveled.

And then she told me, and I felt a knife in my heart, “Today is our wedding anniversary. Eighteen years.”

February twentieth. I should have remembered.

How would I have felt, had I been married to Johan Erik for eighteen years, and then lost him to some savage war? How would I feel, knowing that Johan Erik had been tortured to death?

It was the war. It was the war. It was the war. We were here tonight because of that hideous war.

“Mama, I want to tell you something.” I felt it in me again, the presence of someone far more powerful than a sixteen-year-old girl. I had felt it on Christmas Eve in the church, when the words came from somewhere deep in my heart.

“I know you want to be with Omar. I fully understand. But we must look, if we can, at the war itself. Because if we don’t, there will be another one. And another one. And another one.”

She stared out at the restless water, but I could tell that she was listening.

Shifting on the cold rock, I realized that I was trembling. Not with the cold, for I was still warm enough. Nor with fear, though I knew that perhaps I should be more afraid than I was.

“If women had true equality with men, the crime of war would soon come to an end. We would not allow it, and our men would finally listen.”

For that alone, some would have stoned me to death.

“Therefore, to achieve peace, I will demand, for all women, an equal voice.”

Not for some list of equal rights. Not for some equal paycheck.

For peace.

She sat up straight. In her black *abaya* in the darkening night, she sat up straight.

“No man can stop half of God’s creation from our quest for the equality which God intended.”

Now she looked at me, her eyes no longer sunken in despair, but alert.

“For as the Creator gave us life, so did he, in his perfection, wish us to become *all* that he would have us become.”

A gull cried above us, a sharp, solitary call.

“As he set no limits on his own creation, so he set no limits on ours.”

She stared at me. Then she said, her voice quiet but firm, “My brave girl.”

I repeated, “If women had true equality with men, the crime of war would soon come to an end.”

No further words came. I had spoken.

We stared out at the sea for a long time, until, I must admit, my bottom became very cold on the cold hard rock.

“Mama, shall we go back home?”

I was asking her not to join Omar tonight.

She did not move. She did not speak.

“Mama, I need you. If I am one, alone, my voice is very small. But if we are two . . . Then we are soon four. And then we are soon eight. And sixteen. And thirty-two. When we are sixty-four—yes, when we are sixty-four—it will not matter if they silence me.”

She reached with her gloved hand and took my gloved hand and squeezed it.

She said, "Omar did not fight for the old ways. He wanted to build something new for our Syria."

"Yes, and that something new would surely include peace."

She stared at me, her face framed by the black *hijab* in the darkening night.

"Mama, I want you to think about something. What if, while we are walking toward home tonight along the trail in the snow, we meet Mohammed. The Prophet himself. We tell him, with pure hearts, that our goal is peace." I paused, then I asked her, "What would he say?"

She answered, "Who can argue with peace?"

And so we stood up, my strong mother and I. We did not climb back up the snowy slope, but took a shorter route over a low snowy mound that led to a broad flat field where, in the summertime, people played football.

The walking then was easy. We made two sets of footprints, where no one had walked before.

Chapter Thirty-One



Red conference hall, Henningsvær Rorbuer.

My grandfather surprised me. When I told him about our new project at school, and suggested that he talk with the other fishermen about possibly having a meeting with the students in which the fishermen would discuss their views on climate change, he went right to work.

Many fishermen work alone on their boats, handling the engine, the fishing gear, the lines and all the other equipment entirely by themselves. They have their opinions, but most of the time, they keep those opinions to themselves. They live with the sea, they live with the weather, and they live with their Maker. They are not the most social people in the world.

And yet, when my grandfather asked his friends in the harbor if they would be willing to meet with students at the school—to discuss the changes they had witnessed over the years in the weather, the seasons, the currents, the fish, and the birds—they said, “Yes.”

The fishermen took it a step further. Rather than have the meeting at the school, better to have it somewhere else in the village, so that it became a special event for the students, and so that everyone in Henningsvær would feel welcome to attend.

And further—this was my grandfather’s idea—a half-dozen of the fishermen would sit at a long table at the front of the meeting, as the main speakers. (Others could of course speak from the audience.) And sitting beside those half-dozen fishermen . . . would be at least one of their children or grandchildren, who would also be invited to speak. Three generations would present their views.

My grandfather suggested that we use the conference room at Henningsvær Rorbuer, a large room

right on the wharf, with chairs and tables and all the electronic equipment that we might need. My mother was in charge of the restaurant; my father was in charge of the conference room. That meant that we had to ask my father (my grandfather's son) whether we could use the room normally used by companies and universities . . . free of charge.

My grandfather and I visited my father in the reception office. He was on the phone, taking a reservation. When he saw the two of us together, he gave us a quick nod while he confirmed with the party the number of beds, the number of nights, and the total price.

Then he too surprised me. When my grandfather explained to him the nature of the conference (it was not a meeting anymore, it was a "conference"), my father warmed to the idea very quickly. "Yes," he said, "yes. It's not for the tourists, it's for the town. It's for the *future* of the town. I've wanted to do something like this for a long time."

I told my father that the students wanted to provide homemade cakes for the fishermen. The only expense to Henningsvær Rorbuer would be a few pots of coffee.

"Ja," said my father. "And waffles. We'll be very glad to provide coffee and waffles, and the kids can bring their cakes."

This was the first time, in a very long time, that I felt a connection with my father. Something that had been missing, for *years*, was back again. Though I focused on the conversation—the details of the date, the microphones, the option of using Powerpoint—I felt deep inside a seed of happiness.

The "Henningsvær Conference on Climate Change" took place on Sunday evening, February 24, from 19:00 to 21:00, when no one had any excuse for not being there.

And it was an Event. Far beyond my expectations. The students rose to the occasion, the fishermen rose to the occasion, and the good people of Henningsvær, perhaps a bit tired of snow and cold and long dark nights, also rose to the occasion.

The room was packed. Every fisherman in the village was there, from the young ones to the old timers. Most of them wore sweaters that showed a bit of wear, and a clean pair of jeans. This was their night. They were not here to listen to some dreary bureaucrat from the Department of Fisheries read to them a Powerpoint list of new regulations. They were here to speak for themselves.

And they were here for the kids.

Eight fishermen sat at the long table at the front of the room, along with eight children and grandchildren . . . including my grandfather and me. He wore a blue sweater that my grandmother had knit, with white trim around the chest and neck; it matched his blue eyes and white hair. On the table in front of him lay his notes, and the family Bible.

He, Olav Jacobsen, chaired the conference. He stood up and welcomed everyone. He thanked the students for this opportunity to meet with them "in a discussion of one of the most important challenges in the world today."

And then, one by one, the other fishermen at the table stood up and spoke about their experiences at sea. The wind often blew from the east and the north, whereas in previous years, the wind blew most generally from the southwest. There was more rain during the summers now. January, a couple of years ago, was unusually warm, up to ten degrees—"like April"—for several days.

After each fisherman spoke, his grandson or granddaughter stood up and spoke as well, for they had many times been out on the boat, wearing boots and rubber gloves and feeling the sting of wind-whipped snow on their faces. They could not remember the "old days", as their grandfathers could, but they knew that the fish were shifting to new spawning grounds as the currents shifted.

Several of the speakers felt that these changes were "part of a cycle": they had happened before and

would happen again. A warm January was not unknown in the old days. Some summers were rainy; that's the way it was. And the currents? Well, maybe the moon was pulling them this year. It was all part of the cycles which were regulated by the tilt of the Earth and its orbit around the sun.

I had heard, over the years, so many people dismiss climate change as nothing more than *cycles*. They scorned “the hysteria of climate change”, “the prophets of doom”, “the politicians looking for some angle to win the next election.” Almost inevitably, if I asked, very politely, what they had read about climate change—what were their sources of information?—they responded with no book titles, no articles, no websites; they knew what they knew and that was that.

So I was very glad when Ragnar Mellempvik, our science teacher at school, stood up in the audience and said in a loud, clear voice, “I would like to respond to the myth that climate change is nothing more than natural cycles. Because this myth is keeping us from really attacking the problem.”

My grandfather gestured with his hand, “Ragnar, please come up front so that you can address all of us.”

Ragnar walked to a spot at the end of the speakers' table, from which he could address the entire audience, as well as the people along the length of the table. He had a good strong teacher's voice, and of course, he knew extremely well the complex subject of Environmental Science.

“Scientists from many countries,” he began, “have been drilling into the thick ice that caps the continent of Antarctica. They use a special drill, which does not simply make a hole. This drill is hollow, so that it can bring up to the surface a long round core of ice. The ice was made from snow falling on Antarctica every winter, snow which contained whatever else was in the atmosphere at the time. Layer upon layer pressed down on earlier layers of snow, until, under great pressure, the snow became ice. As we drill deeper and deeper into that ice, bringing up ice cores, we are reaching further and further into the past.

“These ice cores contain a lot of evidence about conditions on Earth during the past 800,000 years. The ice contains tiny bubbles, each one a sample of the air—the atmosphere—over Antarctica at a specific time. The ice may also contain dust from faraway continents, dust which has been carried by the wind. The ice may contain samples of pollens. It may contain ash from a volcanic eruption. Thus, these ice cores enable us to investigate conditions on the Earth going back 800,000 years. An enormous amount of time.”

He paused, as he often did in class, to let this information sink in.

“Oxygen isotope ratios, which we can measure in the ice cores, enable us to follow changes in temperature in the atmosphere at specific times. Thus we can correlate increases and decreases of temperature, with increases and decreases of carbon dioxide in the air samples. We find that as carbon dioxide increases, so temperature increases. This is ancient evidence of the greenhouse effect at work.”

He paused.

“What else have we found? What else have we discovered from these ice cores?”

In class, he would have expected someone to raise her hand with an answer. But at the conference, we in the audience were here to listen.

“We find, and I now quote from a recent report by the British Antarctic Survey,” he looked for a moment at his notes, “**Antarctic ice cores show us that the concentration of CO₂ was stable over the last millennium until the early 19th century. It then started to rise. Atmospheric carbon dioxide levels are now nearly 40% higher than before the industrial revolution.**”

“We studied the bubbles in the ice cores, and saw that the level of carbon dioxide was fairly steady for a thousand years . . . and then, when steam engines began to pump water and drive locomotives, the level of carbon dioxide began to rise, measurably.

“But maybe this was a ‘cycle’? Let me read further: **‘Other measurements (e.g. isotopic data) confirm that the increase must be due to emissions of CO₂ from fossil fuel usage and deforestation.’** This was no cycle caused by the tilt of the Earth’s axis, or the moon, or sunspots. The alarming increase of carbon dioxide in our atmosphere was caused by fossil fuel usage—coal and oil—and deforestation, the loss of vast areas of forest. Both processes, of course, continue today.”

He paused, so that we could think about our own “fossil fuel usage”.

“Let’s look at that increase in carbon dioxide from a different perspective, one that reaches even further back in time. **‘The magnitude and rate of the recent increase are almost certainly unprecedented over the last 800,000 years.’** In other words, at no time during the past 800,000 years have we seen a comparable increase in the *amount* of carbon dioxide in the atmosphere, nor in the *rate* of that increase. Things today are happening very fast.”

He scanned the silent room, then he asked, “How fast?”

He read: “**‘The fastest large natural increase measured in older ice cores is around 20ppmv (parts per million by volume) in 1000 years (a rate seen during Earth’s emergence from the last ice age around 12,000 years ago).’** In other words, the increase of carbon dioxide in our atmosphere was twenty parts per million over a period of a thousand years. Now hear this: **‘CO₂ concentration increased by the same amount, 20ppmv, in the last 11 years!’** Our cars, our trucks, our ships, our airplanes, our factories, are putting as much carbon dioxide into the air in a decade . . . as was previously added in the course of a thousand years. This is what we are doing to our world.”

We heard a tinge of anger in Ragnar Mellempvik’s voice.

“And what about the future? What do the ice cores tell us about the future? **‘The ice core era contains no periods with concentrations of CO₂ comparable to those of the next century.’** Did you get it? The ice core era—800,000 years—contains no evidence of a time when carbon dioxide levels will be as high as they will be in our world during the next century. Which is the twenty-first century, which is right now.”

He did not look at us. He glared at us.

“In other words, we are flying blind. We are blithe and oblivious, hoping for the best. After twelve thousand years of stability since the last Ice Age—an epoch called the Holocene Period—we are about to throw it all away so that we can earn another year of record profits from oil.”

We all had cars. We all had trucks. We all (except for my grandfather and I) had dirty engines in our boats. The students had flown in an airplane to Oslo, and then in another airplane to Denmark. We were all guilty.

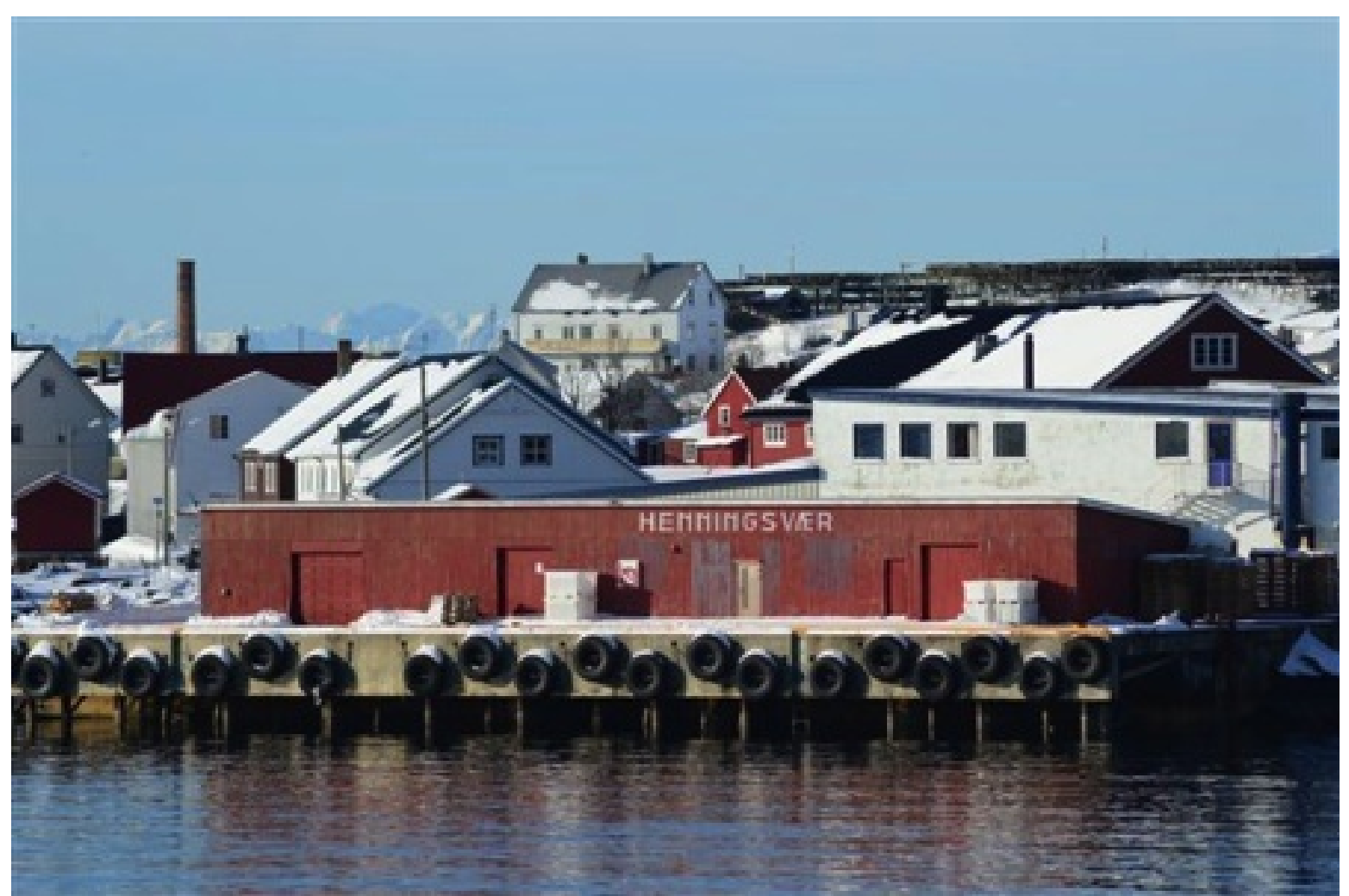
“I will add, before I finish, that we know something else from these ice cores. **‘Methane (CH₄), another important greenhouse gas, also shows a huge and unprecedented increase in concentration over the last two centuries. Its concentration is now much more than double its pre-industrial level.’** Along with the increase in carbon dioxide is an increase in methane, which is twenty-five times more powerful than carbon dioxide as a greenhouse gas. And methane, released by the melting permafrost—by the thawing tundra—may be the monster never seen before during the past 800,000 years on planet Earth.”

Yes, I had been saying that for a long time. Methane was the monster.

“So,” said Ragnar Mellempvik, teacher of environmental science, “let’s not hear any more about ‘natural cycles’. They’re just an excuse for not reading, not learning, and not doing a darn thing about the tragic mess that we are in.”

As he walked back to his seat, the room might have been filled with applause, at least from those who agreed with him. But the room was silent.

Chapter Thirty-Two



Henningsvær wharf. Cod racks in background.

The subject of oil had been raised, so the discussion turned now to a hot topic in the Lofoten: whether or not the Norwegian government should commence drilling for oil in Lofoten waters.

Most of the fishermen were opposed to any drilling, for oil was sure to leak at some point, from an oil rig, from a pipeline, from a ship caught in a storm and washed onto the rocks.

Others in the audience insisted that the drilling, and subsequent tapping, transport and processing of this “natural resource” would bring needed jobs to the Lofoten. Norway had an extremely good environmental record during its thirty years of oil extraction in the North Sea; it would do just as well in the Lofoten.

As arguments went back and forth (most of them familiar to all of us), we heard about oil slicks and employment figures, all in the near future. No one was reaching ahead to the middle of the century, and certainly not to the end of the century. We were thinking short-term, not long-term. I raised my hand.

When the present speaker had finished, Olav Jacobsen, chairman of the conference, called on Johan Erik Jacobsen, student participant, to speak.

I stood up. I looked at Rashida, seated in the front row of chairs between her mother and brother; she nodded her encouragement.

Looking out at an audience of people whom I had known for many years, and for whom I felt not only friendship, but deep respect, I said, “Every barrel of oil that we burn ends up in the atmosphere. Every barrel of oil that we burn contributes to both the warming of the oceans, and the acidification of the

oceans.

“You all learned in school that our blood is salty, with nearly the same percentage of salt as the salt in the sea. There is a striking resemblance between our blood and the saltwater in the oceans. Do you remember learning that in school?”

Several of the students nodded, yes, they had learned that. And, I noticed, my father nodded as well.

I continued, “Now we are diluting the salt in the sea, because we are melting the polar ice. And we are adding, every day, every month, every year, an increasing amount of carbon dioxide to the sea, which becomes carbonic acid. And . . . we are warming the sea, by burning coal and oil and thus creating an increasingly thick blanket of pollution around the Earth.”

I paused, then I told the people of my community, “Were the chemistry and the temperature of the blood coursing through your veins to change as much as the chemistry and temperature of our seas is *already* changing, you would soon be dead.”

Strong words from a kid of sixteen.

Faces known to me for years stared at me in silence.

“Yes, oil brings jobs. There is much that is good about oil.

“And yes, oil may leak from a bore hole or a pipeline or a ship that wrecks upon the shore. There is much that is potentially bad about oil.

“But good or bad, we also know that every barrel of oil that we burn ends up in the atmosphere, where in the short term it may do us little harm . . . but in the long term, it may contribute to an unprecedented catastrophe on a planetary scale.”

I paused, to let them take in those words, “an unprecedented catastrophe on a planetary scale.”

Then I told them, “We are taking a huge gamble.

“We are leaving the harbor in the morning for a day of fishing at sea, without checking on the weather. Without listening to the radio to hear whether a storm may be coming. We are simply hoping . . . that the weather will forever be sunny and nice.

“We keep telling ourselves that climate change is a myth. That the changes which we experience in the weather, in the unusual wind patterns, in the shifting currents, are nothing to worry about. The polar ice cap is melting? So what? Drought in America, huge fires in Russian Siberia? So what? Monsoons and flooding in Indonesia? Well, that’s a long way away.”

I asked with impatience, “Do we wait until the boat has sunk to the bottom of the sea, before we begin to believe that maybe we are taking on water and sinking?”

Go slowly, I told myself. Go slowly.

“No fisherman disregards the weather report. And right now, the weather report for Planet Earth calls for unprecedented storms, bigger than any storms we have ever known. Hurricane Sandy ripping through New York City was a first taste of what is coming.”

I raised my voice, with a tinge of anger, “We are taking a *huge* gamble with our oil. We are betting the future of the kids in this room on the hope, the blind hope, that there’s nothing to worry about.”

Then I told them, my voice calm and strong, “We could do otherwise. We could pursue a safe bet. We could pursue a course that will immediately begin to reduce the amount of carbon dioxide in our atmosphere and oceans. We could pursue a course that will create far more jobs than oil will ever create. We could pursue a course that will *not* drag us into yet another oil war. We could pursue a course which will enable us to look at everything we do with fresh eyes, with a new way of thinking. We could pursue a course which will teach us to live, finally, in harmony with Mother Earth . . . and with each other.”

Big ideas. Let them sink in.

“Let us put oil into the museum where it belongs.

“Then let us move forward, on safe and solid ground, knowing that what we are building will serve our grandchildren well.”

“Tomorrow morning, the sun will rise. Tomorrow morning, the wind will blow. They are ready to go to work.

“Are we? Or are we going to live off Sugar Daddy Oil for another generation?”

“We out here in the Lofoten have never needed to discover gold or diamonds or oil to earn a living. We have always done it with the strength in our arms, the cleverness in our minds, and the courage in our hearts. Our tradition is to live in harmony with nature. Our tradition is to live with *respect* for nature.

“Nature, in the twenty-first century, is asking us to harness the sun, and to harness the wind.

“Nature would like to work with us, as we work with *her*.

“That is how we do things in the Lofoten.”

I paused. Had I said it? Had I made it clear enough?

I heard a small burst of applause. Searching the back of the audience, I saw that the people clapping were the group of sixth graders who had been to Danish Wind. Sigurd and Wasim and the gang. *They* understood.

I sat down. My grandfather looked at me, his eyes bright with approval.

Chapter Thirty-Three



Firmament, land and sea.

My grandfather made sure that everyone had his say. When we could all feel that the discussion was coming to an end—and that we all had more than enough to think about—he himself stood up, with the family Bible in his hand.

He looked with his kind eyes at people he had known for over half a century. He looked, to the left and to the right, at the children seated along the table.

Then he said, “Laila and I have our Bible. We read a passage from it every evening. There is one passage which I would like to bring to your attention today, from the Book of Genesis.”

He opened the big book.

“Verse one tells us, **‘In the beginning God created the heaven and the earth.’** Verse two tells us, **‘And the earth was without form, and void; and darkness was upon the face of the deep. And the Spirit of God moved upon the face of the waters.’**”

He looked out at his audience. “In verse two—the second verse in this big book of scripture—we read *twice* about the ocean. Not about land, not about a mountain, not about the sun or the moon, but about ‘the face of the deep.’ And the first time that we witness God *moving*, where is he moving? ‘And the Spirit of God moved upon the face of the waters.’ God takes a journey over the surface of the sea.”

Olav paused, looking out at his audience. “Something about that sea nudged him to take the next step.”

Looking down at the book, Olav read, **‘And God said, Let there be light: and there was light.’**

And God saw the light, that it was good: and God divided the light from the darkness.’

“Here, for the first time, do we learn of God’s opinion. The light is *good*. Keep that in mind.”

He read, “**‘And God called the light Day, and the darkness he called Night. And the evening and the morning were the first day.’** So on the first day already, we have something that is *good*.”

Rashida was quietly translating for her mother, who was watching Olav with close attention.

“Now on the second day, we are back to the waters. **‘And God said, Let there be a firmament in the midst of the waters, and let it divide the waters from the waters. And God made the firmament, and divided the waters which were under the firmament from the waters which were above the firmament: and it was so. And God called the firmament Heaven. And the evening and the morning were the second day.’**

“So by the end of the second day, we have the waters, and light, and Heaven. In that order.

“Let us go on to the third day. **‘And God said, Let the waters under the heaven be gathered together unto one place, and let the dry land appear: and it was so. And God called the dry land Earth; and the gathering together of the waters called he Seas: and God saw that it was good.’**

“Now, for the second time, God saw that it was good. First, the light was good. And second, the dry land and the seas are good. Keep that in mind.”

Laila, in the third row, listened to her husband with a steady loving gaze as he read the ancient words.

Olav continued, “In verse twenty, we read, **‘And God said, Let the waters bring forth abundantly the moving creature that hath life.’** Here, on the fifth day, we have God creating life in the sea. Creating life *abundantly*.

“What was the first creature in the sea which God created? **‘And God created great whales, and every living creature that moveth, which the waters brought forth abundantly, after their kind, and every winged fowl after his kind: and God saw that it was good.’**

“Once again we read, **‘and God saw that it was good.’** In fact, *seven* times during the six days of the creation, God saw that it was good. When, finally, God looks upon all that he has created, his opinion lifts to a new level. **‘And God saw every thing that he had made, and, behold, it was very good. And the evening and the morning were the sixth day.’**

“Did you hear it? **‘And behold, it was very good.’** From the darkness that was upon the face of the deep, to the abundant blessings which God gave to his newly created people: this was progress that was *very good*.”

Olav let that goodness sink into the minds of his listeners.

“Now, let us take a look at the covenant which God made with his newly created people. **‘And God blessed them, and God said unto them, Be fruitful, and multiply, and replenish the earth, and subdue it: and have dominion over the fish of the sea, and over the fowl of the air, and over every living thing that moveth upon the earth.’**

“Replenish the earth. When was the last time we got up in the morning and went to work to replenish the earth?

“No, we would rather subdue it. We would rather have dominion over it. But nowhere, *nowhere*, do I read that ‘to have dominion’ means ‘to plunder’. Nowhere do I read that to have dominion means ‘to poison’. Or ‘to pollute’.

And now Olav, quiet, gentle Olav, raised his voice so that it reached with force to every listener in the room.

“Who are we to destroy the perfection of God’s creation?

“Who are we to destroy what God has called, again and again, **‘good’**?”

“**And God called the firmament Heaven.**’ Who are we to poison God’s firmament with our oil pollution, and our coal pollution, until even God in Heaven can smell our stink?

“Who are we to poison the waters where God created life *abundantly*?

“If there is any sin greater than the sin of war, it is the sin of poisoning the cradle of life.”

Never before had I heard my grandfather speak in this way.

“What is our future? What is our future here in the Lofoten, and what is our future on this fragile planet spinning in space? Is it drilling for more oil? Or is it harnessing the wind, harnessing the sun?

“Let me read one more passage. **‘And God made two great lights; the greater light to rule the day, and the lesser light to rule the night: he made the stars also.**

‘And God set them in the firmament of the heaven to give light upon the earth, And to rule over the day and over the night, and to divide the light from the darkness: and God saw that it was good.

‘And the evening and the morning were the fourth day.’

“Let us use this great light which God has given to us. It shines down from the firmament of heaven, to give light upon the earth. If God saw that it was good, then why shouldn’t we?”

He was quiet for a long time . . . until he said, “I find no mention, in my Bible, about drilling for oil.” Olav set the Bible on the table.

Then he said to us, “I know from my years as a father, with four children growing up, that though I was often called upon to be patient . . . every now and then, the time came along when the only thing that would work was a good slap on the bottom.” He looked at my father, and at Uncle Lars, with a faint smile.

“My friends, God has been very patient with us. But the time is coming, I truly believe, when we are going to be slapped harder than Jehovah ever smote those in the olden days who refused to obey. For they were but tribes, or cities, whereas we are a people who cover his Earth.

“The Lord rained down burning sulfur on Sodom and Gomorrah.”

“Burning sulfur. Drought. Wildfires. Floods. Famine.”

The room was so quiet that we could hear the cry of a seagull outside the closed doors.

“The first book of God’s testament was the Book of Genesis. Yes.”

Olav looked at the people in the room, looked at them face by face. Finally he said, “I warn you, the last book of God’s testament is not yet written.”

Then he sat down.

After a long silence, I took it upon myself to stand up and say, “Thank you for coming today to what has been an excellent conference. Now I welcome you to homemade cakes which the students have made, as well as coffee and fresh waffles.”

The people in the audience not only applauded. They stood up and applauded. For the speakers. For all that they had learned, for all that they would take home to think about.

And for the fact that tonight, we, together, had done something truly extraordinary.

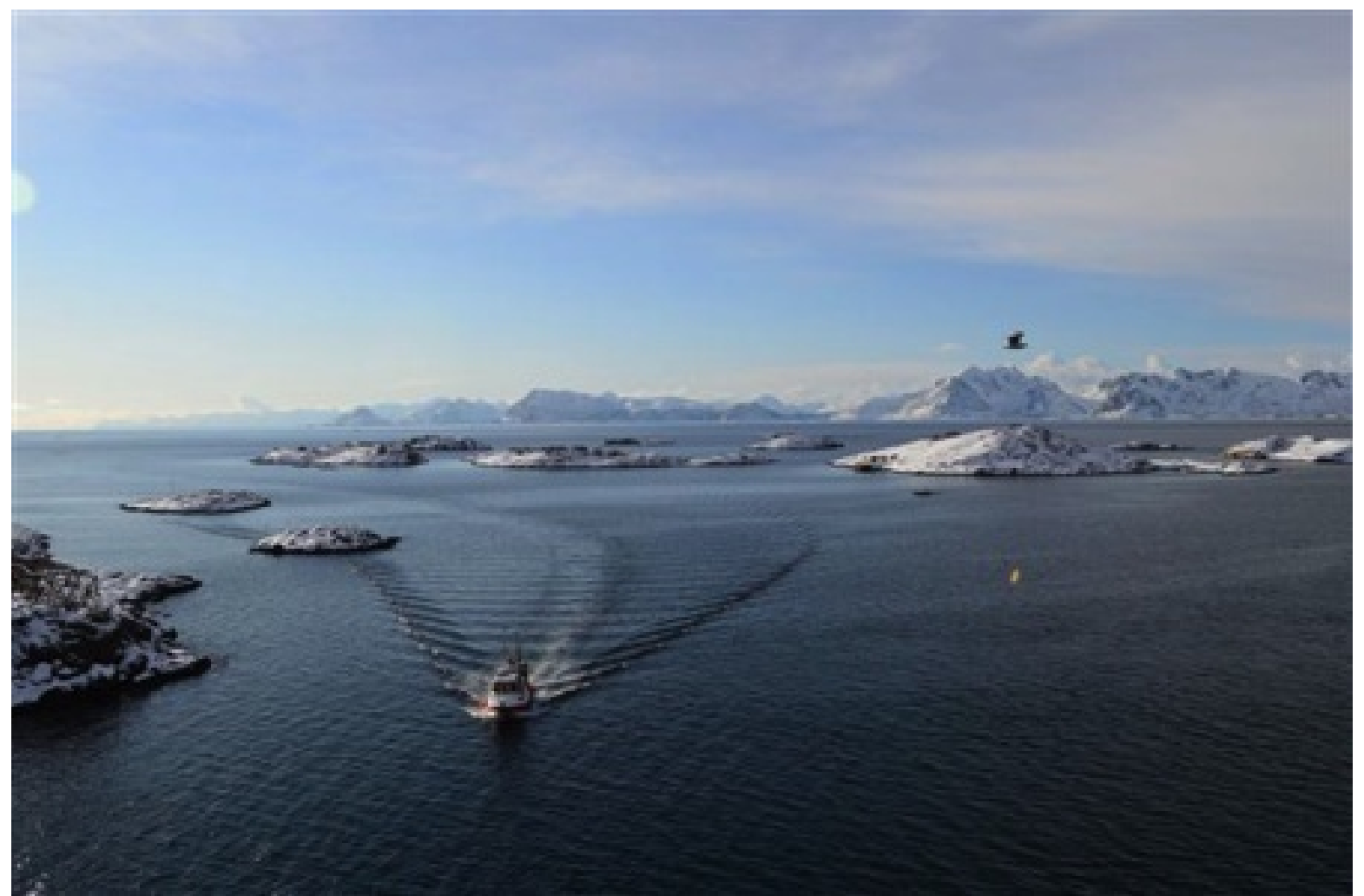
Chapter Thirty-Four

Johan Erik and I often walked after school to the Henningsvær bridge, a graceful arch that connected our village out in the sea with the rest of the world. The long concrete bridge reached gently up into the sky, so that fishing boats could pass beneath it, seagulls could fly both below and above it, and from the crest of the arch, we could see an enormous distance in every direction.



Henningsvær bridge, looking north.

The bridge stretched roughly north-south; to the north was the great wall of mountains that seem to shelter our little village from the outside world. The road heading north soon skirted the bottom edge of those mountains; cars, trucks and even buses looked ridiculously tiny as they made their way along the shore beneath the towering peaks.



View from the bridge, looking west toward Lofoten chain of islands.

To the west, the Lofoten chain of islands— the peaks of an underwater ridge of mountains, each peak unique in its rugged thrust up from the sea—receded off to the southwest.



View from the bridge, looking east toward the coastline of Norway.

To the east, on a clear day we could see the parade of mountains that marched along the coast of mainland Norway, forty kilometers away. Many of the peaks were so distinct that, especially with a pair of binoculars, a person could pick out a dozen individual mountains.



Henningsvær bridge, looking south toward the village. Cod racks on left.

And to the south, the bridge descended to one of the two parallel islands of Henningsvær, a brave outpost wrapped by open sea and swept by unencumbered wind. A radio tower stood on the far tip of the western island, like a small Eiffel Tower, beaming weather warnings to the fishing boats, and bringing the clamor of television programs to the homes in the village.

On some afternoons, Johan Erik and I stood at the bridge's railing while snow from low dark clouds swept down around us; the mountains were all but hidden in a thick veil of snow, while the sea beneath us became a churning pallet of gray.

On other afternoons, the winter sun, low in the southwest, shone from a vast blue sky. The snowy peaks of the Lofoten were sharply etched against the blue. Below the sun, the silver-blue sea sparkled with a sheen of pale gold. Never in Syria had I seen beauty on such a grand scale.

But on some afternoons, the wind blew so fiercely that we had to hold a hand up to our faces, protecting our watering eyes. We did not last long up there on the bridge on such days, for the cold ate right through our coats and boots to our bones. And yet, this was part of Johan Erik's world; he loved to be out in that wild weather, and I . . . if I was going to know him, I had to know his weather as well.

* * *

On Friday, the first day of March, we stood on the crest of the bridge in cold crystalline sunshine—after at least two weeks of blizzards and gloom—watching the fishing boats as they returned in the late afternoon to the harbor. Other people were on the bridge as well, taking a walk in the welcome sunshine (some brought their dogs), or jogging in sweaters and wool hats, or taking pictures in every direction.



Walking the dog on the bridge.

Johan Erik stared at a small red fishing boat hooking around a rocky shoal in the distance; its curving wake flashed in the sun.

“Rashida, I’ve been thinking.” He looked at me. “We ought to have another conference.”

The Fishermen’s Conference had been on Sunday evening; a week of school had passed since then.

“The first conference was about our own neighborhood: the sea around the Lofoten Islands. Now we ought to talk about the whole world. First we speak about the Problem: climate change in various regions of the world. And then we speak about the Solutions: clean energy around the world. The conference would balance two major themes, on a global scale.”

“Then, . . .” I thought for a moment. “I suggest that we show the people of Henningsvær what the *students* can do. Kids from sixth grade to tenth grade are already working on their research projects. We’ll coordinate everyone so that we fit into a coherent program. On a global scale. Has any school in the Lofoten ever done such a thing?”

Johan Erik laughed. “Has any school in all of Norway ever done such a thing? School kids speaking to an audience of adults about the state of their world. Great!”

“Can we use your father’s conference room again?”

He looked at me with a hesitant smile. “We can ask him.”

“Then, we should be the four of us. You and I, and Sigurd and Wasim. Let the boys be a part of it,

right from the beginning.”

“You’re right.” He reached into his pocket for his mobile phone. “I’ll call Sigurd and ask him to meet us at our father’s office in . . . half an hour. I’ll call my father too and let him know that we’re coming.”

“Yes, give him a bit of warning. But I think he’ll like the idea.”

With his eyes on the red fishing boat as it approached the mouth of the harbor—above it swarmed a flock of white gulls; someone on board was cleaning fish—Johan Erik phoned his brother Sigurd, and then his father, both of whom agreed to meet in the conference room in half an hour.

“My father is already in the room,” said Johan Erik as he put the phone back into his pocket. “He’s got a big group coming this evening from the University of Bergen. He says he could use some help setting up chairs for tomorrow morning.”

“Great. We shall be very glad to help set up chairs.”

We stayed on the bridge for a few minutes more—it was hard to leave on such a perfect day—then we walked down the long slope toward the village, where people busy with their jobs and families and car repairs would soon have the opportunity—perhaps in May—to think about the complex problems, and the challenging solutions, that would be a major part of their lives, and the lives of their children and grandchildren, for at least the next century.

Johan Erik’s father and mother were both waiting for us when we arrived. Wasim and Sigurd were already there, helping to set up tables and microphones across the front of the conference room for tomorrow’s panel of speakers.

Sven looked tired as he welcomed us to sit around a table that had not yet been put into place. Berit had brought a platter of fresh waffles from the restaurant, with bowls of strawberry jam and sour cream. Sven and Berit were clearly making time for the four of us during a busy afternoon.

“Father,” said Johan Erik as he spread jam on his waffle, “we would like to have another conference here in your room. We’ve told you about our project at school: everyone is doing research on some aspect of climate change and clean energy. So we thought, Why not present our reports to the community? Why not have a day when all of Henningsvær goes to school?”

“*Good* idea,” said Sven with a glimmer of life awakening in his eyes. “You kids did a great job with the fishermen. Now let’s invite the whole town.”

“We thought,” continued Johan Erik, clearly pleased with his father’s response, “that we’d have it in the evening, maybe on Sunday evening the way we did before. For two hours. Could you fit that into your schedule?”

Now Berit spoke up, “I think you should have your conference on a Saturday, for the full day. You can present your reports on climate change in the morning. Then we will take an hour for lunch in the restaurant—not at tourist prices, but at the least we can charge to cover the cost, for our neighbors. Then in the afternoon, you can present your reports on clean energy. Both morning and afternoon, you’ll have plenty of time for questions from the community. That way, people will feel involved.”

Sven suggested, “I would invite a few other people to attend than just the folks from Henningsvær. Invite a journalist from the Lofoten newspaper. Invite a delegation of students from other schools in the Lofoten. Remember what Uncle Lars said: We are introducing a new program in grade school and high school education, a program just as important as math or chemistry or history. So let’s invite someone from the Department of Education in Oslo. Let’s not tell him, let’s *show* him, that a well planned program on the twin themes of climate change and clean energy should be in every school in Norway . . . and in Syria, when the war is over.”

Johan Erik glanced at me with a mix of astonishment and delight.

“Well then,” said Berit, who had brought a calendar with her. “Can we book a date. Today is the first day of March. How much time,” she turned to Johan Erik and me, “do you need to get ready?”

Johan Erik suggested, “Sometime in May.”

His mother flipped the pages on the calendar. “The Seventeenth of May is on a Friday.” (That day, I knew, was a major holiday in Norway.) “What about the previous Saturday, May 11? We don’t have any other bookings on that day.”

Johan Erik clapped his hands, jubilant. “That gives us two months and a week to plan the Renaissance.”

Then he held out his hands across the table. “Thank you, Mother. Thank you, Father.”

“You are absolutely welcome,” said his father as the two of them shook hands.

His mother playfully pushed his hand aside. “Stand up and give your mother a hug.”

And so he did, closing his eyes as he held his mother for a long moment of gratitude.

Then we finished our waffles and coffee, in no hurry at all, until finally we stood up from the table and Berit took the empty platter back to the restaurant . . . while the four of us helped Sven to set up the tables and seventy-five chairs for the University of Bergen.

Johan Erik became someone new that day. The sadness and the sullenness which had festered deep inside him—the anger because his mother and especially his father had long neglected him while they worked endless hours at the family business—now vanished.

On that day, he left the boy behind and became a young man, confident, grateful, with his eye on the future, rather than on the injustices of the past.

And on that day, in his face, in his posture, in his energetic way of tackling everything that came his way, he became the most handsome man in the world.

Johan Erik did not join us in the family classroom that evening. Instead, he paddled his kayak out to his cabin on the island. He wanted, as he told me, to be alone with the sea, where he could think.

Did anyone else in the combined families know that I could see Rorbu 16 from my balcony? (If they did know, they never said a word.) I could see when Johan Erik turned the lights on: small yellow windows appeared, casting their glow faintly on the snow beneath them. I could see him when he stood out on the porch during the day, and I could see the flashlight when he waved it over his head at night, signaling “Hello!”

If my bedroom lights were on and I left the balcony door open, he could see my silhouette.

Uncle Lars had given a mobile phone to my mother, to Wasim, and to me. He wanted us to be “connected” with the rest of the family.

On that Friday night, I stood out on the balcony with the phone in my hand. The ringer was off, so that no one in the house would hear it. When the phone vibrated, I lifted it to my ear and said quietly, “Hello, Johan Erik.”

“Hello, Sweetheart.” It was the first time that he called me Sweetheart. “My hand is over my heart.”

“Oh.” I placed my hand over my heart. “So is mine.”

“I want to tell you . . . that I am beginning to love you.”

All the stars were listening. The mountains leaned down to listen.

“And I . . .” I took a deep breath of the air from the sea. “And I am beginning to love you.”

We were both quiet for a long time. I could hear, through the phone, the waves washing over the

rocks of his little island.

“Good night, Rashida.”

“Good night, Johan Erik.”

I slept with the window open, knowing that the murmuring sea wrapped around the both of us.

Chapter Thirty-Five



Olav's fishing boat.

How shall I describe this day? Do I begin with the normal course of events, without telling you what is coming? Or do I try to tell you what we felt, when Rashida wrapped her hand around my hand and together we held the fishing line with a cod pulling on the other end? Because . . . it was so much more than just a codfish that we felt.

During the month of March, the Henningsvaer harbor was busy with fishing boats going out before dawn and coming home in the late afternoon, for the cod had arrived from Russia and were spawning in abundant numbers. My grandfather and his crew were out on the *Laila*, trailing a net on days of wet snow and days of frigid winds. He delivered his catch to a cod factory on a nearby island, *Sauøya* (Sheep Island), owned (both the factory and the island) by a boyhood friend named Ragnar. Olav had sold his cod to Ragnar for years, and so it was this year as well.

In mid-March, on a Saturday of sunshine and a light breeze, my grandfather and I invited Rashida and her mother and brother, as well as Sigurd and Laila, to go out for a day of a different sort of fishing. We each used a hand line, called a *juksa*, just as the earliest fishermen had done. Of course we caught fewer fish than with a net, but we could *feel* each fish that we caught, pulling with all its strength as we brought it up hand over hand to the surface.

We were drifting on a gently rolling sea a couple of kilometers east of Henningsvær, with a red triangular sail set above the starboard quarter of the stern, holding the bow (the sail worked like the tail

of a weathervane) into the wind from the southwest. Standing two meters taller than the sail on the port quarter of the stern, the blue wind turbine spun in the steady breeze, keeping the batteries charged. Sigurd and Wasim stood along the starboard gunnel, working their lines just above the bottom—about fifty meters deep—by raising their arms into the sky every few seconds, so that the silver spoon down in the dim water would catch the eye of a passing cod. The boys spoke with each other in bursts of lively Norwegian.

Zainab and Laila stood at the stern, raising their arms with a slow rhythm and talking quietly in Norwegian.

Rashida and I stood along the port gunnel, raising our arms and working our lines in silence. We were facing southeast, toward the misty coast of the mainland with its long jumble of snowy mountains. Other fishing boats passed in the near distance, pulling their nets. Whenever one of us hauled a cod into the boat—a gleaming olive-brown fish almost a meter long, flapping on the floorboards with all its remaining strength—my grandfather would unhook it and clean it, tossing the liver into a blue plastic barrel, the roe (the sack of eggs) into another blue barrel, and the remaining guts overboard. He dropped the gutted cod, still with its head, into a metal bin below the deck, a bin large enough to hold net-loads of cod.

A flock of seagulls swirled overhead with their constant noise, swooping down each time my grandfather tossed another offering of guts into the sea. The shrill birds fought over a wad of intestines, until one gull managed to grab the gob for himself and flap up into the blue sky. If he dangled even a bit of spare intestine, other birds would sail past and try to snatch it.

We all enjoyed watching Rashida's mother whenever she pulled up a cod. Her face, so often somber, was filled with excitement. She spoke to Laila in both Norwegian and Arabic, her voice jubilant. When she had brought the thrashing cod to the surface, my grandfather reached down with a gaff and hooked the fish in its gills, then lifted it on board. In that moment, Zainab's eyes were filled with triumph.

It was perhaps the only time that she truly forgot the war, and I savored—we all savored—every minute of her joy.

And so it was a normal day of cod fishing in the Lofoten Islands, with periods of minor frustration when no one was catching anything, and occasions of great cheering when Wasim pulled aboard a cod that was bigger than Sigurd's most recent cod. The waves washed along the hull, the bright sun swung low in the southern sky toward the west, and my grandfather hummed an old song that he had taught me when I was a little boy. I hummed along with him.

And then . . . a cod took my spoon and gave the line a jerk. I pulled back, setting the hook. I began to pull it up, hand over hand, letting the line fall into a neat pile between my feet, when suddenly I felt something like an electric charge—but it was not a violent shock that jolted me. It was something that filled me with the most extraordinary sense of well-being, an exuberant happiness, and yet at the same time a deep peacefulness. Whatever it was—I could feel it now not just in my hands, but in my entire body—it was huge. I was in contact with something enormous . . . and immensely powerful.

I called out, "Rashida, put your hand on my hand."

"What?" she asked, busy raising and lowering her line.

"Wrap your hand around my hand. Please!"

Never mind that no one had ever seen us hold hands. I never for a moment thought about that. I just wanted her to feel whatever it was that I was feeling.

We were both wearing two sets of gloves, warm woolen inner gloves and thick rubber outer gloves. She wrapped her wet red glove over my wet blue glove, then she stared at me with such a look in

her eyes that I knew she felt it too. She squeezed my hand, gripped my hand, then closed her eyes and whispered, “*Al-hamdullah! Al-hamdullah!*” She was saying ‘Thank you’ to her Allah.

Though I did not look around—we both stared straight down into the sea, our eyes following the line until it disappeared in the clear water—no one else on board seemed to notice. Wasim and Sigurd bantered back and forth. The gulls screeched overhead.

The cod kept tugging on the line; we could both feel that . . . and yet neither one of us began to pull the line up hand over hand. Because clearly there was something else on the line, something not meant for my stomach, but for my heart.

And then the warm vibrant energy slowly diminished . . . until it was gone.

My body was my own again, without some foreign spirit inside me. A spirit, an energy, filling me with . . . life beyond any life I had ever felt before.

Rashida stared at me, her dark Arab eyes filled with a deep and peaceful confidence.

Whereas I was baffled.

“What was it?” I asked her.

She looked out at the sea, then up at the sky. She did not answer me.

Waves washed along the hull of the boat.

Finally she said to me, “Pull up your fish.”

And so I did; I lifted the struggling cod hand over hand until it thrashed in the sunshine at the surface.

We did not call to my grandfather with his gaff. Instead, without a word between us but with full understanding of what we were doing, I hoisted the thrashing cod up from the water. Rashida, after stepping on her line, took hold of the cod by grabbing it behind its gills. She wrapped her arm around it and hugged the fish against her orange rubber jacket. I opened the cod’s jaw and unfastened the hook. Then, with a nod to each other, Rashida leaned over the railing and let go of the cod; it dropped with a splash into the sea and quickly vanished.

No one had noticed that we had just released a fish back into the water.

We stood in silence at the gunnel, looking down into the water, looking out at the sea, until I asked Rashida a second time, “What was it that we felt?”

She said something in Arabic, and then she said in Norwegian, “It was a blessing.”

“A blessing? From whom? Who was blessing us?”

“Yes,” she said. “It was blessing us. Because we both felt it.”

“Rashida, I have never felt such a thing before in my life. It went all through me. I felt as if . . . some enormous energy was *glowing* inside me.”

“Yes, and I don’t think we are ever going to know any more than that.”

She picked up her empty line and began to pull it in. “That’s all the fishing I’m going to do today.”

She coiled the line around a wooden spool, pushed the hook of the silver spoon into the wood, then placed the spool in a locker beside the wheelhouse.

“Johan Erik, I’m going to lie down on the bow.”

And so she did, stretching out in the sunshine on the wooden deck between cleats and coiled lines.

I looked around at the others on the stern. They were busy raising their arms with a slow rhythm, working their lines. Laila and Zainab were speaking quietly with each other. Wasim and Sigurd were laughing at some joke. My grandfather was in the wheelhouse, checking on something.

A blessing.

A confirmation that what Rashida and I were doing . . . was right.

Yes, we might never understand more than that. Something so enormous, so powerful, does not need to explain itself.

I dropped my silver spoon back into the sea and let the line out carefully so that it did not snarl, until I felt the spoon touch bottom. I pulled the straightened line back up and wound it around a wooden spool. I put the spool in the locker beside Rashida's spool of line.

Then I went into the wheelhouse and sang with my grandfather the old song that he had taught me when I was a little boy named Barnacle, who loved to be aboard his grandfather's fishing boat.

* * *

Because.

Because a new time had come.

When finally, finally, the young ones began to understand.

Life, is a dream seeded in the Earth.

Let my dream live. Let my dream live.

For great is the void of emptiness.

Chapter Thirty-Six



Northern lights over Henningsvær. Photography by Vidar Lysvold.

It happened just after midnight on Sunday, March 24, when everyone but Aunt Louise was sleeping. She was in her kitchen, heating some milk to make cocoa (as she told us later), which she hoped would help her to get back to sleep, when she looked out the window to the north and saw a huge green veil spread across the heavens. The northern lights were so intense that they lit the snowy mountains beneath them, giving them a distinct green tinge.

This was the night!

Johan Erik had talked with us about showing my mother and Wasim and me the northern lights on a night when they were especially strong. He wanted us to see them from the Henningsvær bridge, not just from the street in front our house. “You’ve got to get away from the lights in the village,” he said. “On the bridge, you’ll be right up in the sky. That’s the perfect place.”

So Aunt Louise phoned Johan Erik, who immediately agreed that everyone in both families should be roused out of bed, and that they should all meet at the bridge in half an hour. He would do the phoning, because “Most of them are going to tell me I’m crazy. This is going to take some persuasion.”

My phone vibrated; it did not ring. But Wasim’s phone rang and he woke up me and then our mother. Laila called up the staircase to us; Johan Erik had just phoned her. Olav was awake too.

I don’t know what Johan Erik’s poor mother and father said when he knocked on their bedroom door and told them to get dressed so they could all walk together on a frigid winter’s night to the bridge. They had seen the northern lights a thousand times.

Sigurd, notorious for being impossible to get out of bed on a school morning, was probably no more pleased.

But everyone, *everyone*, crawled out of bed and put on layers of clothing, then walked from three different houses toward the bridge. We met on the road leading out of the village, all of us by now fully awake and in ungrudging agreement that the green ribbons rippling across the sky, with shafts of pulsing green light reaching down toward the Earth, were truly spectacular.

Even Johan Erik’s father was excited. “It’s been *years* since I saw them so strong and lively.”

Johan Erik was enormously pleased as he led us over the crest of the arching bridge (which was lit

by streetlamps) and then part way down the slope on the other side, where the snowy road descended into darkness. The mountains now towered on the far side of a dark stretch of sea, their snowy peaks pastel green beneath the veils rippling above them.

Never had I seen anything so *big* as that slowly writhing veil of green, stretching across the northern sky from the Lofoten Islands far to the west, to the sea and scattered islands and distant coastline far to the east, so that even Henningsvær's great wall of mountains seemed small and humble.

And never had I seen anything so delicate, so ephemeral, blooming and pulsing and vanishing like some vast sea creature in the sky . . . all in silence.

The brighter stars in the constellations shone through; Cassiopeia, seated in her chair, was dressed in a gown of green.

Touches of pastel pink appeared, blossomed into the whorl of a rose, and then vanished.

The upper fringe of one long green curtain was deep violet. I stared at more rich vibrant violet snaking across the sky than I had seen in all the rest of my life.

We were not just watching the northern lights; we were witnessing.

My mother held my hand. I could see a smile on her uplifted face, on her peaceful face, which was tinged faintly green. She was happy. Here again, like catching a cod at sea, was something beyond the war.

She was happy, and my heart said a thousand thank you's.

After about half an hour, our feet, even in warm boots, were so cold that reluctantly we decided we would have to turn around and walk back home. Aunt Louise invited us all for hot cocoa; Uncle Lars promised a platter of smoked salmon.

And so we did not divide into three groups headed toward three houses, but gathered, all eleven of us, around Aunt Louise's dining room table, very glad that today was Sunday (2:25 a.m.) and that all of us could sleep—even Johan Eric's mother and father agreed—until noon.

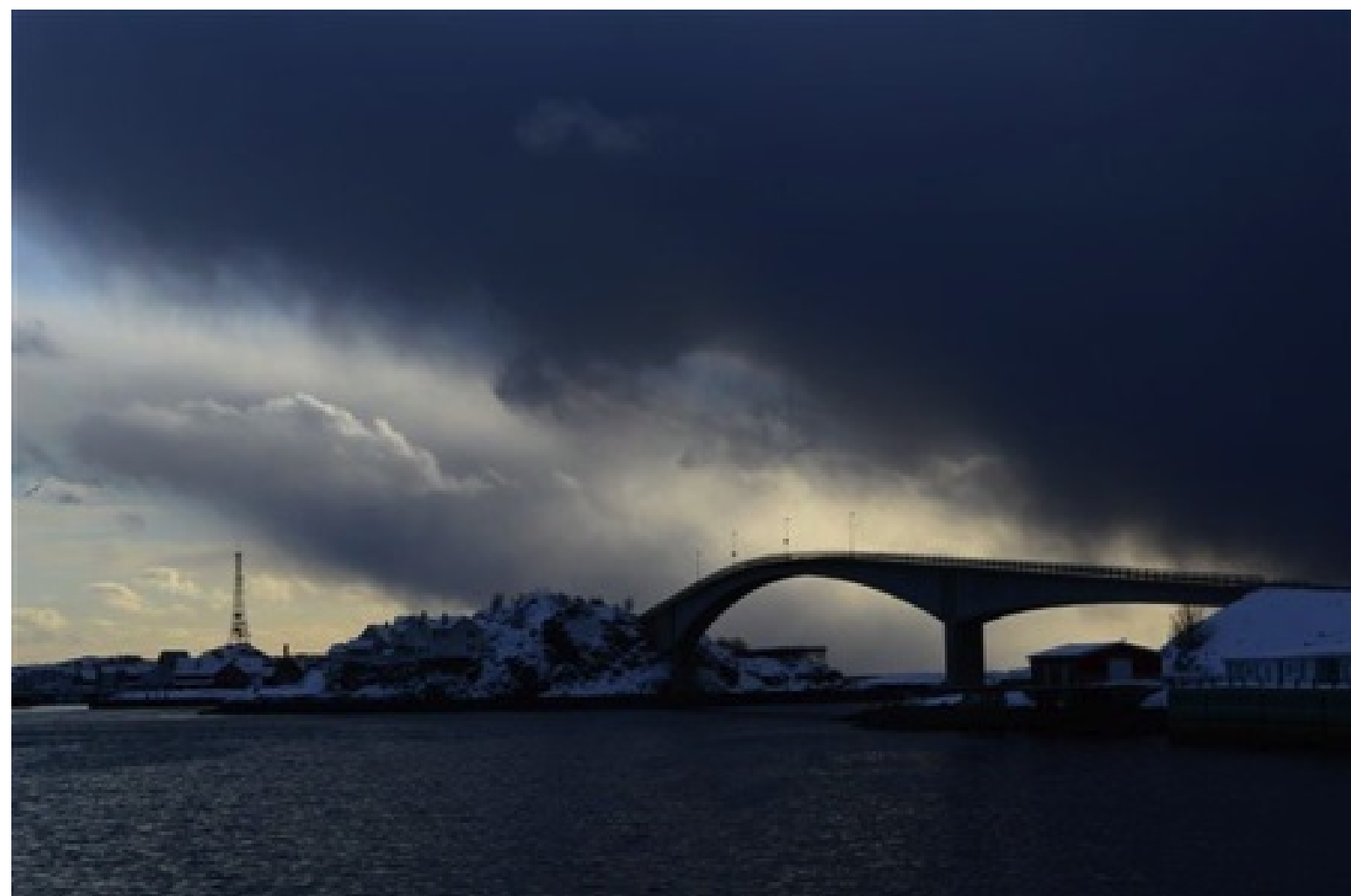
Chapter Thirty-Seven



View of cod racks and lighthouse from Rashida's window.

There were so many things that I liked about Henningsvær.

Some places have weather, but Henningsvær could have three or four weathers all at the same time. The low sun in the south might shine from a distant blue sky upon the mountains of the islands around us, so that their peaks jugged upward, radiant white, toward a low ceiling of gray clouds that covered three-quarters of the sky . . . while at the same time, a fierce black cloud trailing a dark veil of snow came sweeping just above the sea from the west, about to wrap us in a blizzard.



Bridge with approaching blizzard. Radio tower in background.

The sky was so immense that clouds covering most of the sky could be charcoal gray, while the snowy mountains along the coast of the mainland, forty kilometers away, were bright salmon-pink in the late afternoon sunshine.

Mountains were veiled in a mist of sweeping snow. Mountains disappeared completely in clouds that reached down to the ground. Or the clouds would wrap around the base of the mountains, while the peaks jutted into a clear sky.

On cold sunny days of high wind, long white scarves of snow blew from the uppermost peaks across the pale blue sky. The world was frozen, and yet so alive.

The sea was just as quick to change, as strong winds churned up the waves, dark clouds turned the water almost black, and then the sun burst through with a long sheen of molten gold that sparkled around the edges.

No matter where we walked, seagulls sailed above us, calling to each other with their shrill voices, so that almost never was the sky empty. I loved to listen to the gulls while I walked through the village on my way to school on a cold morning, while I stood on the bridge in the afternoon with Johan Eric, and while I lay in bed with the window open at night, when their sharp voices mixed with the soft washing of waves on the rocky shore.

The snow was a daily miracle. In Syria, the desert wind might leave a blanket of dull dust, but in

Henningsvær, the wind blowing over the sea left a blanket of soft white that made everything look so gentle and clean. The black branches of birch trees held puffs of snow. The boats moored to the wharves—Wasim and I walked every morning along the road that crossed one end of the harbor—were deep asleep beneath blankets of white. Even the cod hanging in pairs from the racks had a V of white snow between their uplifted tails.

And the air itself, air that had caressed the sea. Never before in my life had I paid any attention to breathing. But here in Henningsvær, when I stepped out of the school into the snowy yard, I would stand and take deep breaths, tasting the faint salt, savoring the cold, and smelling, as the racks near the school filled up with cod, the heavy fragrance of fresh fish. Yes, I had always loved the scent of spices at my father's marketplace in Aleppo, and I ached to smell them once again. But I was also becoming a girl of the north, who liked to stand so that she faced right into the wind.

The people of Henningsvær were so welcoming and helpful. People in the shops spoke to their guests from Syria with slow, clear Norwegian, or with English, so that we could understand them. As our Norwegian progressed, they praised our efforts.

Wasim's mathematics teacher was delighted, as he told me one day at school, to find such a talented student. "Your brother has a gift for understanding new systems of thought. It's not just numbers. It's a different system of computation. Wasim can see around the corner into the next room." And so Bjørn Olsen took his college textbooks down from their dusty shelf and began to read again about the realms of mathematics which had intrigued him when *he* was a student.

Uncle Lars kept a close eye on my mother, for he knew that she was almost never free of thoughts of the war, thoughts about her beloved Omar, about her young son Ahmed. He arranged with a midwife named Trude, who worked with the department of obstetrics at the hospital, so that Zainab could accompany Trude on her home visits during two days a week. Zainab's Norwegian, after only three months of lessons, was at what Laila called "an intermediate level", good enough that Zainab could quickly pick up from Trude the vocabulary of pregnancy, nutrition, and simple medications.

My mother rode with Uncle Lars in his car every Tuesday and Thursday morning to the hospital in Gravdal, a trip of about an hour and ten minutes, during which Uncle Lars would speak to her in Norwegian about the mountains and villages and frozen lakes that they passed, adding new vocabulary with each trip.

My mother's moods improved as she became engaged with her former work as a midwife. She was once again a professional working with professionals. She now had a *purpose*, both here in Norway, and back in Syria, for she would take her new training home "once the war is over."

I have already mentioned my own precious sense of purpose, which quickly spread among the other students as we developed our "Architects of the Future" project. We prepared for our conference in May by giving ourselves some very challenging guidelines. First we outlined the topics that we would cover, in the twin fields of climate change and clean energy. Various students or groups of students chose various topics, so that everyone had an exciting job.

Then we decided that doing research in the library and online was not enough. Each student had to correspond with at least three professional researchers at institutions in Norway, or in other countries around the world, so that we were not only gathering the latest information on the polar ice cap, or ocean acidification, but were also learning about the scientific world . . . where we might eventually seek a career.

Every kid from sixth grade to tenth grade (the Henningsvær School went only as far as tenth grade) was on the team. The conference in May was *our* conference. The more we learned about our topics, the more we shared with each other. Every day in school now, we felt that we had a *purpose*. Whenever one of us received an email reply from a scientist at the Fisheries Research Institute in Bergen, or from the Ministry of the Environment in Oslo, or from a United Nations office in Geneva, Switzerland, we were exultant.

We created a new page on Facebook, outlining our conference in May and documenting our progress. We could all keep track of what the others were doing, and anyone outside the school who was interested—such as parents—could follow as well.

Wasim and Sigurd were their own special team. They were sixth graders ready to tackle the Dark Forces that threatened their future. Wasim corresponded with his friend Rafeek at Danish Wind as he prepared to explain at the conference “why a child of war loves wind turbines.”

Sigurd wrote to NordOil, the Norwegian oil company, cordially inviting a representative to attend the conference in May, where they would debate “The Future of Oil in Norway”. NordOil phoned Ragnhild Johannessen, the school’s rector, to discuss this conference. About a week later, NordOil sent an email stating that they would send an engineer who would be glad to speak to the students at the conference.

Ragnhild Johannessen wrote back that the school did not want a speaker, but someone who would *debate* with one of the students.

Another week passed. Finally, NordOil replied that they agreed to participate in a student debate.

Sigurd was thrilled. He who had been the mediocre student, more interested in football than anything else, now read the books that Aunt Louise brought home from the Svolvær library. He studied the websites that Johan Erik found for him, and wrote emails to a growing number of professional researchers in a growing number of countries.

Sigurd never explained why he was so suddenly and intensely motivated. The family never asked. They were quietly (and enormously) pleased to see him become so engaged . . . and so happy. He had evolved into an entirely new kid, a kid with a purpose.

* * *

What else did I like about Henningsvær?

The people here took their food from the sea. They could read from the Book of Genesis, as Johan Erik’s grandfather did, then step aboard their small boats and motor out to the vast ocean, where the work they did was real, and right, and good.

While they swept their nets through schools of spawning cod, they kept in mind the Eleventh Commandment, Thou shalt not plunder. As nature shared her bounty with them, so they shared her bounty with future generations.

They seemed to find a deep satisfaction in their difficult and sometimes dangerous work. The men continued a tradition that reached back hundreds of years, some of it chronicled in the paintings and old photographs that were in their homes, their offices, their shops, and even the entry to the village’s one food store. People knew who they were, and where they had come from. They were quietly proud of that unique heritage.



Coming home with the cod.

They had weathered storms, they had found their way home on rainy nights, they had taken care of each other out on the sea, and they had fed their families. When they wrapped their cold hands around a cup of hot coffee on board their boats, they knew that they had earned that coffee.

One day after school, Johan Erik and I walked all the way across the bridge to where the road forked; the highway continued north, but a small road followed a long curving dike of rocks out to an island with a cluster of buildings along the shore. These buildings on *Sauøya* (Sheep Island) were Ragnar Riksheim's cod processing plant. Olav brought his catch here every afternoon; today he promised to be at the wharf at four o'clock, so that I could see what happened to the cod once the fish were brought ashore.



Ragnar's cod factory on Sauøya (Sheep Island).

Sigurd and Wasim were already at the plant, for Sigurd had a job there after school. Sigurd was training Wasim to do the work as well. I didn't know what sort of work it was, until our visit that afternoon. All I knew was that both boys were well paid by Ragnar for whatever it was they did.

From the bridge, Johan Erik and I had spotted Olav's boat, the *Laila*, waiting in the bay with half a dozen other fishing boats for its turn to dock broadside to the wharf and unload its cod. As we walked along the curving road out to the island, the mountains that peered down at Henningsvær were now very close, standing on their own island across a narrow stretch of water. Whatever people did here, they did in the presence of giants.

By the time we reached the wharf, Olav was docking the *Laila* beneath one of several red cranes. Johan Erik pointed at the fisherman who worked with Olav on the *Laila*. He was tying the stern line to a wharf piling. "That should be me."

I could hear the regret in his voice.

"How can you be out on the boat working with your grandfather," I asked, "when you have to be in school?"

"I could have taken a few days away from school during the cod season."

"Then . . . why didn't you? I know you love to be out on that boat."

"Because," he said, turning to me with a strange look, as if all his confidence had left him, "I'm not going to be a fisherman. I'm going to be something else."

I was not sure what to say. It was the first time I had seen him look . . . almost frightened.

"Hello Rashida!" called Olav from the boat. He was several meters below us, for the wharf had

been built to accommodate much larger vessels.

“Hello Olav!” I called down.

Johan Erik gave his grandfather a wave, but otherwise was silent.

Now we had to step aside, into a patch of untrodden snow on the wharf, out of the way of the workers on the dock.

The crane operator, in an orange waterproof suit—everyone on the dock wore these suits, splattered with codfish guts and blood—swung a hook out over the *Laila*, then lowered the hook down to a metal bin filled with cod on the stern deck. Olav attached the hook to the bin’s handles, then the crane lifted the bin—the cod, each almost a meter long, shone olive-gray in the afternoon sunshine—up to a spot above the wharf, over a larger plastic bin. A worker on the dock tipped the cod into the plastic bin. They poured out in a slapping waterfall of wet fish.



Waiting to unload the cod to the wharf.



Fresh cod in a bin.



Transferring the cod to the wharf.



Codfish up close.

Then the crane swung the metal bin out over the *Laila* again and lowered it down. Olav reached up to the bin, then guided it down to a rectangular hole in deck. The other fisherman was now down in the hold below the deck, standing in his boots among the cod that he picked up one by one and tossed into the bin.

The crane once again hoisted the metal bin, and the worker on the dock once again poured the big fish into the larger plastic bin. It was all very industrial, I thought, not at all like holding a strong flapping fish in your arm while you took the hook out of its mouth.

After several more loads from the metal bin, the plastic bin was full. A fork lift scooted out from the building, slid its forks into the base of the bin, lifted it, swiveled around and scooted back into the building with its heavy load of fish.

Everything was done with precision, and quickly, for other boats were waiting in the bay for their turn at the wharf.

Olav's cod filled two and a half plastic bins. "That's a good catch," said Johan Erik, his only words.

Another worker on the dock called down to Olav: the catch had apparently been weighed, for I heard the word *kilo*, meaning "kilogram", though I did not catch the number of kilograms, for the worker spoke with the Lofoten dialect that reversed the numbers, saying "six and seventy" (for example) instead of "seventy-six" as I was learning in school.

Olav waved up to us, his partner untied the stern and bow lines, then the *Laila* pulled away from the wharf to make room for the next boat.

Johan Erik stared at the *Laila* as it passed, silhouetted with its spinning wind turbine, through the silver-yellow sheen of the sun on the water.

He said to me, still staring at the boat, “The other fellow’s name is Arild. He’s extremely good on board.”

“Yes, and you are extremely good at organizing a group of students to become architects of their future. A future which includes a healthy ocean.”

He looked at me, distant. “Let’s hope so.”

We went into the building—careful not to get in the way of the fork lift that scooted here and there with laden bins and empty bins—to look for Sigurd and Wasim.

We found them, clad in orange suits, working at the fringe of a cluster of workers who were slicing the cod open with long knives, then tossing the intestines into one blue plastic barrel, the livers into another barrel, and the egg sacks into a third barrel.

Then they cut the head off each cod, and tossed the head—with staring eyes and big gill flaps—onto the metal table where Sigurd and Wasim worked.

The two boys gave us a quick smile, but they did not pause as, with rapid, practiced motions, they each took a cod head from the table, impaled its lower jaw on a long upright spike, sliced away a part of the jaw with their knives, then tossed the head into a large plastic bin.

The two spikes gradually filled, from bottom to top, with gray lumps of flesh. When the lumps reached almost to the top of the spikes, Wasim and Sigurd set their knives down, slid the lumps upward, off the spike, then dumped the handfuls of flesh into a plastic bucket.



Cutting codfish tongues!

With a grin, Wasim wagged his tongue at me, then he picked up another cod head and impaled it on the spike.

I understood now: They were cutting out the tongues of the codfish.

“What,” I asked Johan Erik, “do you do with codfish tongues?”

“We eat them.”

“You’re kidding.”

“They are very good fried. They’re a specialty at the restaurant. A tourist from Oslo can’t go home without having a dinner of codfish tongues.”

“What about a tourist from Aleppo?”

“She will be having codfish tongues for dinner tonight.”

“Johan Erik!”

“My grandmother will be upset if you protest. She is very proud of her fried codfish tongues.”

“While you are having a filet of fresh cod with your parents.”

“Oh no, we’ll all be with you tonight. My parents, Aunt Louise and Uncle Lars, everyone. This is a family tradition. Once a year, we feast on cod tongues.”

The strange look was gone from his eyes, replaced by his customary glint of humor. “Maybe tomorrow night, you and your mother can serve camel tongues to the family.”

“Johan Erik, we do *not* eat camel tongues.”

“Well, I’m glad to hear that.”

And now he laughed.

I think I could not live if I did not hear that laugh at least once a day. I was deeply, deeply in love with this young man. If he was upset about something—if he was frightened—my heart would not rest until I knew why.

“Now,” he said, pointing to a large room in an adjoining building where a dozen people in orange suits were working around another metal table, “let’s go visit the good people from Poland.”

They were working hard, taking two gutted, headless cods, putting a loop of string around their joined tails, then twisting the fish so that pairs of cod could hang by their tails over the bar of a cod rack. The workers greeted us with brief smiles, but remained steady at their work as they laid the pairs of cod in yet another plastic bin. When the bin was filled, the fork lift came to fetch it.

As soon as the table was nearly empty of cod, the fork lift returned with a plastic bin from the first room that we had visited, a bin filled with untied cod. The lift hoisted the bin over the table, then tilted it so that two square meters of cod came waterfalling down: another load of work!



Another load of cod.

The workers never flinched, but reached right into the pile and began to tie the tails together.

Johan Erik later explained to me that many Polish people came to Norway, some to work for a month or two during the cod season, and some to stay longer with permanent jobs. The Poles and the Norwegians got along well, with a long history of friendship across the Baltic Sea.

We walked up a set of stairs and out of the factory building into the snowy sunshine. Breathing the welcome fresh air, we followed a road past a large white house where the Polish workers lived, then past a smaller red house where Heike Vester, the whale researcher, lived . . . to a long stretch of horizontal cod racks, bounded on one side by a bluff of rocks, and on the other by a copse of spruce, where another group of people clad in orange suits were hanging the pairs of cod by their tails.



Hanging pairs of cod on a rack to dry in the cold wind off the sea.

The men stood on boards a couple of meters above the ground, four men in a row; a fifth man stood in the back of a truck parked beside the rack, handing them pairs of cod which the men passed along and hung on the horizontal poles chest high in front of them. Once again, the process was efficient and quick. The men spoke now and then in Polish, and occasionally clapped their hands together—in bright red or blue rubber gloves—against the cold.



Workers from Poland and Spain filling the cod rack.



The view from underneath.

Johan Erik said to me, quietly, “That should be me.”

I wanted to take hold of his hand. But that was something we did only when we were entirely alone.

“Johan Erik, I suggest that tomorrow you go out on the boat with your grandfather. And the day after, you work up on a cod rack. Then you think: What is my calling in life? What is the work I was born to do?”

He was quiet. I did not interrupt his thoughts.

We watched the workers passing and hanging the cod with a smooth rhythm. Behind them stood the immense wall of mountains, their white peaks sharp against the pale blue sky, like the altarpiece of an outdoor church.

Men labored here in harmony with each other. They were no doubt exhausted by the end of the day. But the fruits of their labor were sent home to a bank account in Poland.

How much I wished the men of Syria could find that peaceful rhythm, that honest labor, without guns and tanks and jets firing missiles. All within the embrace of bountiful nature.

So in that outdoor church, that outdoor mosque, I said a prayer.

For peace.

For peace.

For the architects of peace.

And may I be one of them.

As we walked across the bridge toward home, I asked Johan Erik, “Do you know why I like Henningsvær so much?”

He looked at me, intrigued. “Why?”

“Because there is so much here that is right. And so it is a very good place to think about what is wrong in the world.”

“Yes,” he said. “It is a very good place to think.”

“And do you know what else?”

“What?” He stopped walking and stood facing me. I could tell that he wanted to hold me as much as I wanted to hold him.

“Your mountains make me feel brave. And strong. You told me when I first came to Henningsvær that the mountains would become my friends. You were right. After a while, the mountains become a part of us. Quietly, while we barely notice, they make us brave and strong.”

“Strong enough to do the job we were born to do?”

His blue eyes were asking for my strength.

I told him, “I am certain of it.”

And then we held hands on the bridge that arched through the sky . . . on our way home to a dinner—a family feast—of codfish tongues.

The Coming of Spring

Chapter Thirty-Eight

We became a team. The four of us, we became a team. Every evening, Sigurd and I would join Rashida and Wasim in their upstairs classroom at my grandparents' home, to plan our conference in May. Our strategy was to go around the world twice, once in the morning, with reports on Climate Change in various regions around the planet, and once in the afternoon, with reports on progress in Clean Energy in various regions around the planet. We would look at the Problems, and then we would look at the Solutions.

We decided that since we four had become the central organizing committee, we would each speak on a topic of our own choosing. Two speakers from the sixth grade, Sigurd and Wasim, would follow the morning session; then two speakers from the tenth grade, Johan Erik and Rashida, would follow the afternoon session. Rashida would have the final word.

Both sessions would be followed by half an hour for questions from the audience, as well as any discussion that might develop. We wanted to get the community as involved as possible.

Our team grew. My grandmother, a retired teacher, and my grandfather, a man whose wisdom came from the sea, worked with Sigurd and Wasim as the two boys developed their short speeches. What was the right topic? What aspects of that topic were important? Where could they find information—information on a professional level—about that topic? And what was the best way to weave that information into a narrative—into a flow—so that their speeches were clear and logical and convincing?

Aunt Louise and Uncle Lars worked with Rashida and me. We often had dinner at their home, engaged in discussions around the table that enabled Rashida and me to dig deeply into ideas, and periods of history, which we had not fully thought about. Aunt Louise brought home from the library a growing number of books on civil rights movements, on economics, on ecology, on war. Uncle Lars, who had seen first hand the devastation of war, came home each day from his work at the hospital with another probing question for us to think about. Why did wars go on, century after century? What sort of wars might likely be caused by years of drought, crop failures, melting glaciers and drying rivers? Could any government, national or global, be able to cope with the chaos of millions of climate refugees in search of food and water and survival?

Zainab often joined us during these dinners and discussions, bringing her viewpoint as a mother who had lost a son, and a widow who had lost a husband, in a civil war that no one had wanted and no one could bring to an end. She balanced Aunt Louise's readings from the Bible with her equally perceptive readings from the Koran.

Rashida, as I could see during these dinners, was very proud of her mother. And Zainab, as I could also see, was deeply proud of her daughter.

I am enormously glad to say that my mother and father joined the team. They too had questions for us to consider. They also had suggestions regarding the practical arrangements of the conference: How many microphones would we need in the conference room? What was the best way to provide lunch for everyone in the restaurant next door? Should, perhaps, the conference be recorded on video and then kept in the school library?

Vibeke became editor-in-chief of the Facebook page which documented our preparations for the conference. She featured pictures of students working together in the library, and pictures of students interviewing the fishermen and shopkeepers of Henningsvær. The students wanted to know what people in their community expected from this conference. What were *their* questions, about the future of Henningsvær, about the future of the world?

A growing number of people in the Lofoten Islands, especially at the various schools, followed our Facebook page. Some of them sent questions to us. Many asked if they could attend the conference in May. We realized that our conference room on the wharf in Henningsvær could not possibly hold the growing number of people who wanted to attend. My father made some phone calls and reported that a media company in Leknes (near the hospital where Uncle Lars worked) could set up a camera in the conference hall, then stream the video live to schools throughout the Lofoten, where students could watch in their own auditoriums.

And so as our team grew, our audience grew. People had been thinking about the problems that might arise, should Norway decide to drill for oil in the sea around the Lofoten Islands. People had been aware that the polar ice cap was melting, though they did not fully understand why, or what might be the unexpected consequences. The fishermen of the Lofoten were certainly aware of changes in the sea that might be cyclical . . . or might be the result of this thing called “climate change”. Now that a group of kids at a school were offering to teach people—in a sort of “Lofoten Seminar” as one newspaper called it—about “the twin themes of climate change and clean energy”, people were ready to listen. They did not want to hear from politicians in Oslo. They did not want to hear from speakers paid by the oil companies. They did not want to hear from bureaucrats at the European Union in Brussels.

But they would be very glad to listen to their own educated children . . . on a subject that was crucial to their children’s future.

Meanwhile, the sun rose earlier and set later, as the days became increasingly longer. Though winter kept its grip on us with frequent blizzards sweeping across the sea, the sun reassured us that spring was coming.

One evening, after our team of four had worked together—along with my grandmother and grandfather, who made it a team of six—in the upstairs classroom, Sigurd and I walked home to our house beside the harbor. We talked for a while with our parents about the events of the day, then I said good-night and went upstairs to my bedroom. I was looking out my open window, watching a fishing boat as it motored up the channel, when I thought that I might phone Rashida to tell her, “Good night.”

A little nervous, for I had never before called her just to say good night, I highlighted her name in blue on the contact list and then pushed “OK.”

Her voice when she answered told me that she was very happy that I had called. She stood by her own open window, looking out toward the blinking lighthouse. She told me that she had heard some birds which she had not heard before, calling from the rocks along the shore.

When she heard them again, she held her phone out the window so that I could hear them too. I grinned as I listened to the excited “Kleeeeeep! Kleeeeeep! Kleeeeeeeeeep!” of a pair of oystercatchers, or as we call them in Norwegian, *tjeld*. They are big birds—almost as big as crows—and very handsome, black above and white below, with long orange beaks. They are almost always in pairs, for they are almost always in love.



Oystercatchers feeding at low tide.

“Rashida, the *tjeld* are back!”

“There are two of them, flying together low over the bay. They make noise while they fly, and they make even more noise while they’re on the shore. You call them ‘cheld’?”

“That’s right. They’re in love. You wait. One evening they will sit on your roof and announce all night that they are in love. You won’t be able to sleep.”

She laughed. My heart was profoundly happy to hear her laugh. She had come to Henningsvær so filled with the war. I had seen, during the past three months, how strong she was, how resilient, how willing to fight her way back to some more positive view of the future. But now with the coming of spring—with the return of the birds, with the golden sun arching around us a little more each day, with a glimpse of blue sky and a taste of real warmth in the air for an hour or two before the next blizzard came howling off the sea—the Earth could work her magic on this girl who stood at her open window.

“Good night, Rashida,” I said. “*Takk for i dag*. As we Norwegians say, ‘Thank you for today.’”

“Good night, Johan Erik,” she said, and I could hear the love in her voice. “*Takk for i dag*.”

And so now, every evening before I go to bed, I stand at my open window and look out at the harbor, while she stands at her open window and looks out at the lighthouse—blinking, as she tells me, “with two short blinks and then a long one.” She tells me about the sea, and about the enormous sky over the sea. She tells me about the growing crescent of the moon. She holds the phone outside her window so that I can hear the oystercatchers that are now, yes, sitting on her roof, announcing to the world with their excited “Kleeeeeeeeeep! Kleeeeeeeeeep! Kleeeeeeeeeep!” that they are madly in love.

And then we say “Good night” to each other.

I think that we shall do this every evening until we are finally able to be together, bonded by the sacrament of marriage.

I am only sixteen years old, but that is how I feel in my heart.

Chapter Thirty-Nine

A few days later, when the evening sun of April was shining through the dining room windows, I sat at the table with my parents and Sigurd, wondering if I should ask the question that might well prompt my parents to respond with a barrage of arguments and lofty advice that I did not want to hear.

What I wanted, what I needed, was confirmation from my parents that what I intended to do was the right thing to do.

My mother was talking with Sigurd about a story that he was reading in English class. My father was putting butter on his potatoes.

I pushed the carrots around my plate with a fork.

Finally I looked across the table at my father and said, “Dad, I have a question for you. How do you know when you’ve met the girl that you want to marry?”

He looked up at me, first a bit baffled, and then he smiled. “Well, that’s easy if the girl is your mother. I knew the first moment I saw her at a dance in Svolvær.”

My mother was looking at me now; she had that silent stare which meant that she was looking right into your soul.

She said, “Johan Erik, just because you have met the right girl does not mean that you have to get married tomorrow.”

My heart leapt with happiness. My mother had just confirmed that I had met the right girl.

I told her, “Don’t worry, Mom. Rashida and I can wait. There’s no rush. But is it possible . . . to be engaged to someone for a long time before you get married? Is there any reason to wait before we get engaged?”

My mother looked at me a while longer with those eyes that had loved me and worried about me for sixteen years, then she stood up from the table and said, “I’ll be right back.”

While she was out of the room, my father said, “Johan Erik, your mother and I would be profoundly glad . . . were you to marry Rashida. We think that she is a wonderful girl, and we, to tell you the truth, have come to love her ourselves. She and her mother and brother, well, they are part of the family. We like them and, well, we have developed such a deep *respect* for these people from Syria.”

He paused, then he added, “It’s just that your mother and I would like you to wait until . . . until at least you have graduated from high school. As you say, there’s no rush.”

Now my father had given me his approval as well! I had solid ground beneath my feet. I did not want a break within the family; I wanted us all together.

I turned to Sigurd. “What do you think?”

He shrugged with a faint smile. “I think what I’ve always thought. You’re sixteen, going on fifty. You worry about the world. You have all these grown-up thoughts. You’re out on your island thinking about the next hundred years. So of course you’re ready to get married—or at least thinking about it—while you’re still a kid.”

Sigurd frowned as he thought a bit more. “Rashida has been through that war in Syria. So has Wasim. That made them grow up fast. Sometimes Wasim says things to me that make me think he’s twenty years older than I am. Or fifty. He talks about death . . . because he has seen it.”

My little brother told me with conviction, “So Rashida is like you. You are both a couple of kids who grew up fast.”

Then he grinned. “And anyway, if it means that Wasim becomes my brother, then that’s great. I’ve always needed a brother who wasn’t fifty years old.”

Now my mother returned to the dining room. She stood beside me and held out her hand, with a

gold ring on her palm.

“I had thought to wait,” she said, “but now I see I should better give it to you.”

I looked up at her. Her eyes said, Yes.

As I picked up the ring from her hand, I felt that my life took a huge step forward.

I asked her, “Where did it come from? I have never seen you wear it.”

“My mother gave it to me. She told me that *her* mother gave it to her. Beyond that, I don’t know. It is an old ring, and it has been in the family for a long time.”

She held out her right hand, with both an engagement ring and wedding ring on her finger. “Your father gave me an engagement ring two months after that dance in Svolve. Our parents told us that we had to wait at least until we had finished high school. And so we did. Three days after graduation, we were married.”

She looked across the table at my father, whose face—tired from work just a few minutes ago—now glowed with love. “We know what it is,” she said, “to know with absolute certainty that you have found the person you want to marry.”

“That’s right,” said my father. “When I put that engagement ring on your mother’s finger, we were absolutely certain. And we have never had a moment of doubt since.”

I looked up again at my mother. “Thank you.” My voice was shaking, but I said a second time, “Thank you.”

She leaned down and kissed my forehead. “You are welcome.”

She sat down in her chair at the table, then she added, “Your brother Sigurd is right. Sometimes, while you were growing up, your father and I thought you were older than we were. We were so busy, working and working to pay off the debt after we purchased the Rorbuer, that we hardly had time to think beyond the next busload of guests and the next round of monthly bills. But you, Johan Erik, you, at the age of five already, would sit with us in church and then ask us afterwards questions that even the minister would have to think about. ‘Why did the Creator create us?’ ‘If we eat a fish, aren’t we eating a part of Creation?’ You would stand on the wharf and stare out at the sea for hours, and then you would ask us, ‘When is God going to come back and create something new?’”

Yes, I could remember those questions. If you grow up beside the sea, such questions are absolutely normal.

“Well,” said my father, curious, “when are you going to ask her?”

I looked at the ring, set it on the table beside my plate, picked it up again.

“I don’t know. It has to be the right time. But at least . . . I have your blessing.” I did not ask it as a question, but said it as a statement.

“Yes,” said my father, standing up from his chair. “You have our blessing.”

He took my mother’s hand and lifted it, kissed her two rings, then he left the room.

When would I ask her? Where would I ask her? Would it be on some special occasion?

When my father returned, he held my mother’s camera. “This is a moment in history,” he said. “Sigurd, would you take a picture, please, of your brother standing between his proud mother and father?”

And so I stood between them, in front of the pine wall with a dozen old black-and-white photographs of earlier generations on both sides of the family. I put my arms around my mother and father; they each wrapped an arm around me.

Sigurd did not have to tell us to smile. We were beaming.

Chapter Forty

I wanted to ask my mother a question, but I was not sure if she was strong enough yet.

Her work with Trude, the midwife, two days a week had been a welcome success; she always came home with a story about what she had seen and learned. Uncle Lars told me that he greatly enjoyed talking with my mother as they drove together to the hospital in Gravdal. They did not talk about the war, but about the mountains and the villages and the old farms of Lofoten while they drove on the winding roads in the lengthening days of spring.

Every evening, after we had said good-night to Laila and Olav, the three of us went upstairs and sat together in the classroom, where we could speak Arabic with each other. We had come to love this room, for in it we had learned our first words and sentences in Norwegian with Laila. And now, with Johan Erik and Sigurd, we were preparing for the conference in May. This small classroom, once a bedroom, with its map of Syria on a wall, tables covered with books and papers and laptops, and windows looking east toward the morning sun over the sea, and north toward the ever-changing wall of mountains, had enabled three exhausted refugees to set aside the bleak past while we filled our minds with a new language, new surroundings, new friendships, and new plans for the future.

We were finishing our cups of tea—Laila had provided the classroom with an electric kettle—when I decided that Yes, my mother was strong enough, and Yes, I wanted to share with her how I felt.

“Mama, how did you feel when you first fell in love with your Omar?”

She looked at me, not with eyes ravaged by losing him in the war, but with a glow of remembered happiness.

“He worked with his family in the market. My mother had sent me to buy a few things, including apricots. When this handsome boy chose ten of the very best apricots from the crate they were in, picking them up one by one with his gentle hands, I wondered why I had never seen him before in the market. After he had placed the apricots carefully into my cloth bag, he looked at me for a long moment, then suddenly he smiled and said quietly, ‘I am Omar.’

“‘I am Zainab,’ I told him.

“And after that, every lemon and kilogram of rice and sack of pine nuts that my mother needed, I bought from Omar.”

Wasim was listening, as fascinated as I was. We had never heard this story before.

“We were only sixteen, but our hearts were ready. I was still in school. He had been in school—not my school, but a different school in Aleppo—until his family needed him to help at the market. That is why I had never seen him, until I bought those apricots.”

I savored the happiness in my mother’s voice. Could I ever be as strong?

“Of course, I met his father and his mother and his older sister, all working at their stall. They always greeted me with smiles. There was never any difficulty. His sister especially would help any customer who was waiting, so that Omar and I could talk for a little bit.”

My mother smiled, then even laughed as she remembered, “Every time I saw him in the market, Omar gave me one free apricot. He said I should eat that apricot while I stood in the sunshine and thought about him.”

Yes, we had always had apricots in a bowl in our home in Aleppo. And now I knew why.

“We waited until I had finished school, and then we were married. Every morning, he would leave the little apartment that we rented to go work with his family in the market. And I would straighten up the kitchen, then go to work as an apprentice midwife, helping a woman of seventy who almost never lost a child. Your father and I, we were so happy together. We needed no dreams beyond what we already

had.”

Now she looked at me, studying me, as if I were a bit of a mystery. “We were very different from you and your Johan Erik. We did not see beyond our little neighborhood in Aleppo. We certainly could never have known that a war was coming to our country.”

She shook her head, her eyes filled with worry. “I am frightened for you. You are both so filled with your dreams. Your dream to become a doctor, yes, that is a good dream. A very good dream. But your hopeless, romantic dream to bring peace to this world . . . We have seen that war is very real. We become savages, killing each other in the streets. I wish, Rashida, I wish that to marry your Johan Erik and to become a doctor—the finest doctor in all of Syria—were enough of a dream for you.”

“But Mama, it is *because* of that war that I want, somehow, to build a peace that will last forever.”

“I know. I know. The peace that you want would have let me keep my Omar. And my Ahmed, my son, fourteen years old when he vanished. I know that you are right. But Rashida, I am frightened for you.”

“Why, Mama?”

“Because you will be hurt, again and again.”

“Yes, I already know that. But I cannot turn my back on the war in Syria and just disappear into the peaceful mountains of Norway. Nor can Johan Erik turn his back on the melting ice, the warming sea. That is why . . . we found each other.”

She studied me, her eyes no longer worried, but proud. “Yes, you have found your Johan Erik. And I am deeply glad for that.”

Wasim stirred in his chair. “Mama, your Omar was in the streets with a rifle, fighting for peace. Your Ahmed was in the streets with his camera, taking pictures so that people around the world would know about that horrid war.” He paused, then he explained to his mother, “Rashida wants to try a *different way*.”

He looked at me, a boy of twelve with eyes of someone so much older. Then he looked again at his mother. “Mama, give Rashida your blessing.”

My mother closed her eyes for a long moment—perhaps she was talking with her Omar—then she stood up from her chair.

Wasim and I stood up as well. Every evening, after our tea and before we went to bed, we said our prayer.

We faced the white sheet of paper with the star and crescent on it, thumb-tacked to the left side of the southern wall, and thus we faced Mecca. I stood on one side of my mother; Wasim stood on her other side. We each held one of her hands and so we prayed as a family.

My mother said, “*Al-hamdullah*. Thank you, God, for bringing us this far. Be with us, this girl especially, as she works to bring a true and lasting peace into your beautiful world.”

“*Inshallah*,” said Wasim. God willing.

“*Inshallah*,” I said.

I felt the presence of my father. I felt the presence of my brother Ahmed. I had their blessing as well.

I lay in bed with the window open, listening to the waves washing over the rocks. I could tell now, after so many nights with the window open, whether the sea was calm, or churning, or rolling with big waves that crashed on the rocks. The waves were tonight were big, splashing noisily on the rocks.

People asked for so little: apricots from a gentle hand, a welcoming smile.

Surely our great Allah, who gave us those apricots, who gave us that smile, intended to give us

the blessing of peace as well. He did not curse us with the war in Syria; we cursed ourselves.

Then let us end this curse. Surely, there is no greater work than that.

When the little telephone vibrated under my pillow, a wave of joy washed through me.

I held the phone in my hand, pushed the button and asked, "Johan Erik, do you like apricots?"

Chapter Forty-One

Oh, those beautiful weeks of spring, when every day the sun rose a bit further to the north of east, and set a bit further to the north of west, in an ever lengthening arc that melted the snow and warmed the fragrant earth. Sigurd and I walked to school in the morning on a road that was white with snow, and walked home in the afternoon on gray slush. The slush froze overnight, making walking difficult the next day, but by afternoon, our boots trod on black pavement steaming in the warm sunshine.

We lived near the top of the world, and thus as the planet's axis, which through the winter had leaned away from the sun, now leaned more and more *toward* the sun, the top of the world reached a tiny increment closer each day toward the magician that touched us with his wand.

The first yellow flowers, *vinterkarse*, pushed their way up from ground recently frozen; some opened their courageous blossoms above patches of lingering snow. The seagulls, noisy enough on a winter's day, now raucously fought as they fended off intruders and laid their eggs. The oystercatchers filled the opalescent glow of an April evening with their joyous "Kleeeeeeep! Kleeeeeeep! Kleeeeeeep!" as they flew in pairs over the bays and over the rooftops, announcing to the world that their speckled eggs were the most beautiful eggs of all.

Uncle Lars and I got out our sea kayaks, then we borrowed a dozen more from folks in town who generally waited until July, or at least June, before they launched.

But we could not wait; we were as madly in love as the oystercatchers, with the sun that rose higher into the sky each day as it swung around us, casting its golden glitter across the water.

On Saturdays and Sundays, we launched an entire flotilla of kayaks, paddled by people well bundled in sweaters, wool hats and rubber gloves, and further clad with orange life jackets, calling back and forth to each other in Norwegian and Arabic as they launched from the floating dock at Henningsvær Rorbuer on a calm day of gentle breezes and an almost flat sea. We paddled around the dozen small islands scattered near the larger islands of the village, exploring their rocky shorelines as if—and this was true for some of us—it were the first time that we had set eyes on such wild and exotic terrain. When suddenly a sea eagle flapped into the sky from a rocky point just ahead of Zainab's bow, we first watched in awed silence, then whooped together with a cheer.

We borrowed bicycles, which needed air in their tires and oil on their chains after the long winter, then rode in a jubilant parade over the graceful bridge that lifted us up into the blue sky . . . and then set us down again on a road that snaked along the edge of the mountains, along the edge of the sea. Above us we could hear the muted roar of waterfalls, while below us we could hear the ocean-roving waves crashing on the rocks.

And of course, everywhere we went, we could hear the cries of seagulls. I wondered if I would manage, when the time came to leave Henningsvær for a university somewhere, to make it through a month, a week, even a day, without a sky filled with so much life.

We always took a picnic with us on our bicycle trips; our favorite comestible was Syrian flat bread wrapped around a Norwegian jam made from last summer's blueberries. If we stopped beside a lake, Uncle Lars would collect driftwood and build a fire. Then he would dip his old black coffee pot into the lake and hang it from a stick over the flames until the water boiled. He made his Turkish coffee "strong enough," as he told us "to float a silver dollar."

Zainab declared that it was the best coffee she had ever tasted.

We often cruised out of the harbor on the *Laila* on a weekday evening, to watch the golden-red sun swinging across the western sky from the perspective of the open sea. Some of us fished with a hand line for the coastal cod which resided in Norwegian waters throughout the year. Others savored a glass of red wine—radiant in the evening sunshine—while they gazed at the mountains on various islands, their lower slopes now black rock, but their peaks still capped with golden-red snow.

We often sang while out on the gently rocking boat. My grandfather knew all the old Norwegian songs of the sea, as did, surprisingly, my mother. Zainab knew songs in Arabic that reached back, she told us, “to centuries before centuries, when caravans crossed the silent desert.”

Our wind turbine spun in the wind that almost never settled on the sea. From the equinox in September to the equinox in March, and now toward the end of April, we had rarely needed the diesel engine. We no longer paraded boastful up and down the harbor. It was enough that Vibeke took a picture of the wind turbine mounted on the *Laila*'s stern, then posted the picture on our school's Facebook page for all the world to see.

On May fourth, the first Saturday in May—one week before the conference on Saturday, May 11—we spent the day on *Sauøya* (Sheep Island), at the invitation of Olav's boyhood friend Ragnar, who, with his wife Grete, joined us for a hike and a picnic. *Sauøya* was much hillier than the islands of Henningsvær, with tall rounded ridges of rock, their slopes clad with grass and heather. The last of the snow had finally melted, so that we could climb without difficulty to the top of the island's tallest hill . . . from which we could survey the distant rooftops of Henningsvær.

In a protected patch of heather between two outcrops of rock, Aunt Louise found an oystercatcher nest with two large speckled eggs. We could hear the parents on a nearby shore, where they were feeding in a bed of kelp exposed by the low tide. We approached no closer than a couple of meters from the nest, peered at the eggs and then withdrew before we alarmed the parents. My mother, with a new telephoto lens, took a picture of the eggs.

While we had our picnic on what seemed to be the top of the world—except for the mountains that towered nearby—Ragnar told us about the old ski which had been found in a pond on the island. The pond had been dammed long ago with a wall of earth and stone. (The water in the pond was used for making steam in a cod liver oil factory, still operating on the island.) Eventually, the crumbling dam leaked so much that workers cleared it away and emptied the pond completely. While they were removing decades of debris from the now exposed bottom of the pond, one fellow noticed what looked like the tip of a ski sticking up. And a ski it was, as they discovered when they carefully extracted it from the sodden bottom. The ski was taken to a Lofoten museum, and then to the University of Tromsø, where analysis of the wood determined that it dated from the century *before* the birth of Christ.

“That ski was over two thousand years old,” Ragnar told us, “used by someone who had been skiing right here on this island.”

Although two thousand years was not especially ancient in Syrian time, it was a long time ago in Norwegian time. The Vikings did not sail their ships, I knew from Norwegian history class, until almost a thousand years after some hunter lost his ski on Sheep Island.

“After the last ice age ended,” continued Ragnar, “about twelve thousand years ago, the snow and ice along the coast melted before it did inland. The warmth from the Gulf Stream opened the shoreline for settlement. The first people to come were no doubt fishermen. They discovered the cod,” he grinned, “and we've been here ever since.”

I (or even Rashida or Sigurd or Wasim by now) could have said something about the Gulf Stream: that it might well shift in its course as the ocean warmed and the polar ice cap melted. That for the first

time in thousands of years, the flow of the seasons and the migrations of the cod could be disrupted. We had come so far since that old fellow with his skis. Were we to lose it all now, snow and cod and a sunlit meadow filled with wildflowers in the spring?

But I kept quiet.

In one week, we would tell the full story in abundant detail.

Today, my mother—freed from the confines of her restaurant—was laughing like a young girl. My father was looking at the world through his binoculars. Aunt Louise and Grete were showing Zainab how to make a wreath of yellow flowers to wear over her scarf. Wasim and Sigurd were scampering from hilltop to hilltop like a couple of goats. Uncle Lars had lain back in a patch of heather to take a nap. My grandfather and grandmother were deeply engaged in a conversation with Ragnar about their own Old Days in Henningsvær.

All of which enabled Rashida and I to slip off on our own. We made our way along the top of a ridge, descended a long grassy slope pungent with young ferns, walked beneath thousands of dried cod hanging on a long rack, then descended a last bit of grassy hill to a navigation light—white with an orange cap, a bit taller than we were—perched atop a rocky bluff on the island's southern edge. The light blinked red at night, warning boats to keep to the middle of the channel. Around its base was a concrete platform, enclosed by a black iron railing about waist-high. I led Rashida out on this platform and then around the light, so that we were well hidden from any member of our families who might have watched our departure.



Navigation light on Sauøya.

The afternoon sun cast a silver-yellow sheen across the rippled sea between the village of Henningsvær and our island. Whenever a fishing boat passed through that sheen, it became a black silhouette. The breeze was from the southwest, warm today, with a scent of brine.

Rashida and I had known each other since the evening of December twenty-first, when she and her mother and brother had arrived by ship at the port in Svolvær on the first night of winter. There had been no sun then. That was not quite five months ago. So much, so much had happened during those months.

Now, without a word, knowing that our moment had finally come, we faced each other, held each other, touched our lips together and kissed in the warm sunshine of spring.

I had never before known what a real kiss was. It's the whole person, offering all that she is—her heart, her soul, her passion—in her firm pressing lips.

A surge of joy ran through me, wave after wave of happiness, as if the tide was coming in. I held her, I squeezed her, as she for the first time held me tightly with all the strength in her arms.

Sixteen-year-old boy and sixteen-year-old girl became young man and young woman, their hearts pounding. But she was Rashida, an Arab girl from Syria, and I wanted her to know that the foundation of my love was *respect*. I loosened my grip; my hands held her shoulders. She did the same; her hands held and tightly squeezed my shoulders. Her lips pressed harder against mine, then she pulled away, so that the cool air from the sea passed between us as her dark eyes stared at me.

I knew what I should say; I knew what she wanted me to say, so I said it, “No sex until we are married.”

She looked at me with gratitude, and with unencumbered love. Young woman and young man we could be, with confidence, with absolute peace of mind, and with a love that would deepen every day.

She said, with a voice filled with gratitude, with a voice that promised so much, “No sex until we are married.”

I told her, “All I want to know is that we *will* be married.”

She smiled, her face radiant with happiness, her face unbelievably beautiful.

“Johan Erik, I cannot imagine any other life, than a life with you.”

The gold ring that my mother had given to me was on the dresser in my room at home. Now I knew that at the right moment, I could ask Rashida if she would wear that ring, and that she would say Yes.

An enormous door opened, the door to our future together.

Letting go of my shoulder, she touched her fingertips to my cheek. Her touch was tentative; then she pressed her full hand against my cheek and smiled again.

I let go of her shoulder and touched my fingertips to her cheek. Yes, we would go slowly, slowly, and savor every exquisite moment.

“Rashida,” I said; all the happiness in the world was in her name.

I pressed my full hand against her cheek.

“Johan Erik,” she said as she laid her hand over mine.

Her dark eyes studied me. Never, never, never for one moment would I ever betray the trust that I saw in her eyes.

I pulled her toward me and we kissed again, with as much peacefulness as passion, with as much respect as love.

In the warm sunshine, in the breeze off the sea, we promised our hearts to each other, forever.

In later weeks, later months, later years, we often stood on the crest of the Henningsvær bridge in the evening, in the night, watching the navigation light which had provided a hiding place, a sanctuary, as it

blinked red . . . red . . . red on the rocky point of Sauøya. It was like a tiny red jewel, blinking beneath the enormous expanse of distant stars, proclaiming our love, our love, our love, in a universe where such a gift was so precious.

Architects of the Future

Chapter Forty-Two

What happened between the first week of March, when we decided to have a conference that would address the twin themes of Climate Change and Clean Energy, and Saturday, May 11, 2013, when people from the village of Henningsvær packed the conference room, was something that we students could never have anticipated.

As we—from the sixth grade to the tenth grade—gathered information from books, articles and websites; as we corresponded with professional scientists, engineers and companies around the world; and as we shared with each other what we had learned . . . *we outgrew ourselves*. We were no longer just kids; we were young adults investigating the questions that were crucial to our future. We were investigating the problems that so many adults had vaguely considered, but never really seriously addressed.

When we shared what we had learned—on an epic Saturday that became part of the long and rich history of Henningsvær—we transformed both ourselves and our community.

We did not simply speak about the challenges of the future; we showed people, crystal clear, what we needed *to do* in order to rise to those challenges, beginning *now*.

* * *



Henningsvær Rorbuer: Rooms, reception, white restaurant, red conference hall.

Architects of the Future was held in the conference room of Henningsvær Rorbuer, its pine-paneled walls decorated with old black-and-white photographs of fishermen and their ships. Equally important, the conference room had a wall of large windows looking out at the wharf and the sea.

The morning session addressed **The Challenges of Climate Change** from 9:00 to 12:00, with a break for coffee and waffles at 10:30.

Lunch followed in the restaurant next door from 12:00 to 1:00. (Tables were set up outside along the wharf to handle the overflow crowd.)

Then the afternoon session addressed **The Benefits of Clean Energy** from 1:00 to 4:00, with a break for coffee and waffles at 2:30.

Three newspaper reporters, from Lofoten, from Bodø, and from Oslo, attended the conference. Video transmission linked us with schools throughout the Lofoten Islands. We were linked as well with the mainland as far south as the University of Trondheim, as far north as the University of Tromsø, and as far east the Sami College in Guovdageaidnu. From the islands to the coast to the tundra, Norwegian schools were following this innovative conference.

The weather on that Saturday morning in early May blessed us with welcome springtime warmth. Puffy white clouds drifted across a blue sky (far to the east, rain clouds trailed their gray veils over the mountains of the mainland). A gentle breeze from the southwest promised stable weather throughout the day. The snow had melted from all but crest of the mountains to the north; their dark slopes were capped by a white ridge that gleamed in the morning sunshine.

The students were nervous, excited, determined. They were ready: they had practiced their reports, they had taken turns speaking into a microphone, and they had prepared something special—a little response from the audience now and then—which would nudge the audience to think more deeply.

After much discussion, the students had decided that Johan Erik should be the conference “host”. He would welcome the audience at the beginning, he would introduce each speaker, and he would make any of the necessary announcements throughout the day. Johan Erik at first recommended that some other student be given this job; he did not want to be in the spotlight, and he very much wanted all of the students to feel equally engaged in this unprecedented enterprise.

But the students persisted. Johan Erik had organized the great trip to Danish Wind. And—a couple of weeks later—he had thumped his fist on his desk in class and demanded new courses at school, courses about climate change and clean energy. Johan Erik had been thumping his fist for *years* about all this, though no one had paid much attention.

So the students were determined that he should be the Master of Ceremonies for this first-ever conference. With Johan Erik in charge, things would go right. Things would be a bit special.

And everyone *would* feel equally engaged in what the students were already calling **The First Annual Conference on Architects of the Future**.

As Johan Erik stood at the podium at 9:00 on Saturday morning, May 11, he looked at the faces of more people than had ever before gathered in this room. His father’s one hundred and twenty-five folding chairs had not been enough; chairs had been brought on a truck from the school, and even from the church. People stood along the two side walls and in front of the windows across the back; others, outside on the wharf, could listen to loudspeakers that had been set up on Friday evening.

A fellow with a video camera on a tripod—hired by Johan Erik’s father—stood in the aisle between the two halves of the audience. Johan Erik, and all of the other speakers today, would speak into two microphones: one attached to the local sound system, and one which would accompany the video out

to the world.

The eleven students who would speak today sat in the front row. The other students from Henningsvær School (who had helped to prepare those speeches) were scattered throughout the audience. Family members of the speakers had been given priority seats in the second row, so that they could (unobtrusively) take pictures of their daughters and sons at the podium.

Johan Erik's mother sat at one end of the second row, so that she could leave now and then to check on things in the restaurant. His father sat at the other end of the second row, so that he could get up now and then to check on things in the conference room. The other adults in Johan Erik's and Rashida's families sat together toward the right end of the second row: Aunt Louise, Zainab, Uncle Lars, Olav and Laila, dressed as if for church on Sunday morning. (Zainab wore a blue *abaya*, rather than black, and a blue *hijab* over her hair.)

With so many people in the room, the air had quickly become warm and stuffy. People standing along the back opened the windows. Now everyone could hear not only the occasional cry of a seagull, but a pair of oystercatchers who were circling over the water between the wharf and a nearby island, letting the world know that both of their eggs had hatched and that the two healthy fledglings were the most beautiful—"Kleeeeeeeeeeeep! Kleeeeeeeeeeeep! Kleeeeeeeeeeeeeeeep!"—creatures in the entire world.

Proud of his community, for the people of Henningsvær had showed up in full force today, Johan Erik said into the two microphones, "Good morning. Thank you for joining us today at our **First Annual Conference on Architects of the Future**. During the morning session, our speakers will address **Climate Change: the Problems**, so that we all have a clear idea of the unprecedented challenges that we face. During the afternoon session, our speakers will address **Clean Energy: the Solutions**, so that we all have a clear idea of what we can actually *do* as we tackle those urgent challenges.

"We will take three breaks during this long day: a half-hour break in the morning for waffles and coffee, an hour-long break for lunch, and a half-hour break in the afternoon for cakes and coffee, and," he grinned, "perhaps a nap."

He paused, then he said, his voice becoming serious, "Please keep in mind, as our speakers address you with their visions of the future, that we are not talking about the next ten years. We are talking about the *entire* twenty-first century, a stretch of time which must be totally different from the twentieth century . . . or there will not be a twenty-second."

His little brother Sigurd, seated beside Wasim in the front row, gave him a thumbs-up.

"I would like to introduce our first speaker, Vibeke, from the tenth grade. She will tell us about two closely related aspects of our world up here in the north: the polar ice cap, and the jet stream." He reached his hand out toward her; she sat upright in her chair, clutching her notes, obviously very nervous. "Vibeke, thank you for being our first speaker."

He stood at the podium so that he could shake her hand. He could see in her eyes that she was frightened, for she was about to do something that was far beyond anything she had ever done before in her life. He said quietly, "I'm proud of you, Vibeke." Then he left the podium and sat in a chair off to one side.

Vibeke looked for a moment at her mother and father in the second row; though they never came to the school to watch her volleyball games, and only occasionally bothered to attend a parent-teacher evening, they were here today.

She looked at Børge in the front row, her boyfriend with whom she had practiced her talk half a

dozen times. He gave her a nod of confidence.

Then she looked at Rashida, a few seats from Børge in the front row; Rashida stared at her with those intense dark eyes. Borrowing strength from the girl who had become her deepest friend, she said, “We cannot wait any longer.”

Sweeping her eyes now across the audience, she said with a louder voice, “We cannot wait any longer.”

She nodded to Ulf, a seventh grader who sat in the front row with a laptop on a small table in front of him. Ulf touched the keys . . . and two illustrations of the polar ice cap appeared on a screen beside the podium, one dated September 1979, the other dated September 2012.

“Our Earth is warming,” said Vibeke. “Two centuries of carbon pollution in our atmosphere have wrapped a totally unnatural blanket around our world. This blanket allows the light from the sun to pass through, but when that light becomes heat—when light energy becomes thermal energy—the blanket of pollution allows only a portion of that heat to escape into space. The rest of the heat is trapped. Thus we have destroyed an ancient balance, and our world becomes warmer and warmer.”

Though she now glanced at her notes, she really did not need them.

“Where does this heat go? Where is it stored? A small part of it warms our atmosphere. A small part of it warms the land. But most of it—93.4% of it—warms the oceans. We do not see a large increase in the ocean temperatures, because the oceans are vast, both in surface area and in depth. They can hold a huge amount of heat, while their temperatures rise only incrementally.

“But, so what?” She shrugged. “What difference does it make if the oceans contain more heat than they contained before? When we look at the polar ice cap, a sheet of ice floating on the ocean at the top of the world, we see that this unnatural heat makes an *enormous* difference. Remember, ice melts primarily from below. Yes, the sun shining on ice melts the upper surface a little bit. But most of the melting takes place along the lower surface, where warm water—unnaturally warm water—melts the ice. So as the oceans warm, the polar ice cap melts.

“The ice becomes thinner. As the thin edges melt, the upper surface area becomes less and less, revealing more and more open water. Whereas white ice reflects most of the sun that shines on it, the dark water *absorbs* most of the sunlight, and thus becomes steadily warmer. The warmer water melts more ice, the melting ice reveals more open water, the open water absorbs more sunlight, and so the cycle accelerates. The ice melts more and more quickly. Until, of course, one day the ice will be gone. Meanwhile, the open dark water of the Arctic Ocean will continue to absorb unprecedented amounts of sunlight.”

She paused, then she asked, “How warm will the Arctic Ocean become?”

From the students scattered throughout the audience came the shouted reply, “We don’t know!”

A murmur of surprise went through the audience; they hadn’t expected such an abrupt noise.

Vibeke asked, “What sort of changes will be caused, in our climate, in our weather, by this growing amount of heat in our northernmost ocean?”

Again she was answered by a shout, “We don’t know!”

The students in the front row grinned. Perfect!

“Well,” said Vibeke, “we already *do* know a few things. We know that as the ice grows thinner, the wind blowing across it breaks it up into smaller and smaller pieces, which melt all the more quickly. We know that the melting ice dilutes the salinity of the ocean saltwater with an enormous infusion of freshwater. We know that creatures which previously have lived on this continent of ice, such as polar bears, as well as creatures which previously have lived *under* this continent of ice, such as special types of algae, and krill (a small shrimp), and certain types of fish . . . will all lose their habitat. We know that

food chains in the northern seas will thus be increasingly devastated. And we know that the once stable top of the world, capped with cold thick ice, will become a turbulent spawning ground for unprecedented ocean storms.”

She paused to let the fishermen in the audience think about those storms.

Now she turned to the pictures on the screen. “We know that since 1979, 49% of the ice that used to be there . . . is gone. In September of 2012, the polar ice cap had shrunk to its smallest size on record. The expanse of lost ice is 1.3 million square miles, about the size of Europe, excluding Russia to the east and Scandinavia to the north. Imagine if all those European countries had vanished during the past three decades. Maybe *then* we would notice.”

A stir went through the audience.

“But that is just the *surface area* of the polar ice cap. The ice has been melting from underneath as well, as the Arctic Ocean warms, so that the ice is now much thinner. In fact, although almost half of the surface area has disappeared, a full 80% of the *volume* of ice has vanished.

“We are talking, my friends, about changes on a planetary scale.”

Only a few months ago, she had never once thought about changes on a planetary scale. Neither, she guessed, had most of the people in the audience.

“We know, of course, that the oil companies are waiting for that ice to melt, so they can hurry north to the open waters and drill for oil. But Sigurd will tell us later about that.”

Yes, Sigurd was supposed to debate later in the morning with a representative from NordOil, the Norwegian oil company, but that person had apparently not yet arrived.

She continued, “And we are *beginning* to know, though research is still at an early stage, that the melting of the polar ice cap and the warming of the polar seas are influencing—in a big way—the jet streams that circle around the northern hemisphere of our planet. The jet streams have a direct influence on our weather, all the way down into Europe, and central Asia, and to the southern reaches of North America. We may not pay much attention to what is happening to the polar bears and to the krill. We may not pay much attention to the disappearance—to the *accelerating* disappearance—of the polar ice cap, one of the major features of planet Earth. But, my friends . . . all of this is already happening. *Is already happening*. And it is eventually going to change profoundly the weather of the beautiful month of May.”

Another stir went through the room. She liked these agitated murmurs.

“And of September. And of December.”

She looked again at Rashida, in her blue *abaya* and blue *hijab*, and thought for a moment—a thought completely outside the talk she was giving—that maybe after the conference was over, someone could take a picture of her and Rashida standing together. As friends. Friends forever.

Then she looked out at her audience and continued, “How, you might ask, does the melting of the polar ice cap influence the jet streams? Aren’t they two completely different things?

“Well, here’s how it works. In the autumn, before the arctic sun disappears during the dark winter, and before the polar ice thus begins to grow in size, the arctic seas give off much of their heat to the arctic atmosphere. The water warms the air. So now the *air* becomes unnaturally warm.

“Well, so what?”

“Jet streams are caused by the difference in temperature between two large air masses: the warm air above the mid-latitudes of the northern hemisphere—such as the air over Europe—and the cold arctic air. Warmer air rises higher into the upper atmosphere than cold air does. The warm air then wants to flow into the regions of lower pressure in the north. But the Earth is spinning, so the Coriolis force—named after Gaspard Coriolis, a French civil engineer who first described this phenomenon in 1843—deflects air currents to the right in the northern hemisphere. Thus, the winds pouring from areas of high

pressure to areas of low pressure form a river of wind that blows at high altitudes from west to east around the northern parts of our world.”

She scanned the faces of her audience, then she repeated, “A river of wind blows from west to east around the northern parts of our world. That is the jet stream.

“But the river of wind does not flow in a simple circle. It meanders with big waves that reach to the south and reach to the north. These waves also move from west to east, bringing cold air and warm air, bringing wet air and dry air, to various regions of the northern hemisphere . . . and thus bringing our weather.

“However—and here is where the warming seas and the melting polar ice cap enter the picture—when the Arctic Ocean releases its unnatural amount of heat into the atmosphere in the autumn, the atmosphere warms. The heat difference between air in the north and air in the south becomes less. The colder air rises to a higher elevation than it previously did, and thus the warm air rising in the south has less tendency to pour toward the north. The mechanism which creates the powerful winds of the jet stream is *weakened*.

“So what happens? As the winds blowing from west to east become weaker, the meandering waves of the jet stream reach further north and further south, bringing unusual weather to various regions of the Earth. In addition, the movement of these waves from west to east becomes slower; movement can even stall for a period of time. Thus the weather lasts much longer. A normal period of summer heat lasting for a few days . . . becomes an extended period of drought lasting for weeks or even months. A normal period of rain lasting for a few days becomes an extended period of rain, bringing unprecedented floods. Arctic cold reaches further south, bringing snow to places where snow has been a rarity. Tropical warmth may reach further north, bringing muggy air and swarms of mosquitoes.

“So . . . as the polar ice cap melts, as the Arctic Ocean warms and eventually gives off its heat to the atmosphere, the jet stream no longer follows its normal patterns. It slows, it wobbles, it lingers. And the weather becomes crazy.”

She paused, giving everyone time to make the connection between the distant polar ice cap, which no one in the room had ever seen, and the weather which was a fundamental part of every fisherman’s life.

“Well, we might ask, ‘What happens when the polar ice cap completely disappears?’”

The students around the room shouted in practiced synchrony, “We don’t know!”

“How warm will the Arctic Ocean become?”

“We don’t know!”

“How will these changes on a planetary scale effect the jet stream?”

“We don’t know!”

“What kinds of weather will we have here in the Lofoten in twenty years?”

“We don’t know!”

“That’s right,” she said, moving toward her conclusion. “What we do know about climate change is limited, based on a few decades of active research, and a century of random temperature and rainfall records. We have some ice core samples, as well as some core samples from various ocean bottoms. We have a variety of computer models, developed by scientists from around the world. And yet, our clues are few.

“We are peering into the vast unknown.”

Vibeke glanced at her parents. They were listening, intently.

“On the other hand, what we do *not* know is enormous. We have never, in all of human history, altered conditions on our home planet to the extent that *the planet itself is changing*.

“We are chopping holes in the hull of our boat, and hoping for the best.”

Vibeke paused, then she added, “Much of my information comes from a woman who has become my heroine, Doctor Jennifer Francis, a professor at Rutgers University in New Jersey, USA. I have listened to several of her excellent lectures on YouTube, and I would like to repeat what she has said about our changing world. Noting that the ice is melting at an unprecedented rate, that the oceans are warming to entirely unnatural temperatures, and that the jet streams are altering our weather with droughts and floods and record heat and record cold, Doctor Francis states, ‘We are in uncharted territory.’

“We are in a place where we have never been before.”

Vibeke took a deep breath as she looked at her friends and neighbors. This was the hard part, but she was going to say it.

“And to make things worse, we refuse to admit that we are the cause of our present and accelerating mess. How many of us in this room today have a car that burns gasoline, have a boat that burns diesel? How many of us have flown in an airplane that burns aviation fuel?”

She thumped her fist on the podium. “We are *all* guilty.”

She hadn’t meant to sound so angry.

But that was a part of her message today.

Then . . . let those be the last words.

Other than, “Thank you for listening.”

She glanced at Rashida, already applauding; glanced at Johan Erik, who had stood up to applaud; glanced at her parents, who were now applauding as well.

Then she walked from the podium—as proud and strong as a mother tiger—toward her seat beside Børge, who looked at her with something entirely new in his eyes.

Chapter Forty-Three

Johan Erik spoke into the two microphones, “As we examine the Problems this morning, we are privileged to hear from Børge,” he reached out his hand toward Børge, “also from the Irrepressible Tenth Grade at Henningsvær School.”

Johan Erik shook Børge’s hand at the podium, then he sat in his chair off to the side.

Børge looked for a long moment at Vibeke; he knew that he had to rise to the occasion, or he had lost that girl. Either he shared her passion, her sense of urgency . . . or she would find someone who did.

Then he looked out at the audience, people who had been to his baptism, his football games, his confirmation. People who for sixteen years had given him so much. Well, it was time now to give back.

He leaned toward the microphones and said, “Vibeke is right. We cannot wait any longer. Because the oceans are warming. Our world is changing. The conditions which enabled human civilization to develop for thousands of years are changing. Changing on a planetary scale.”

He paused, as Johan Erik had coached all the students to pause now and then, to enable the audience to hear every word, “crystal clear”, and to enable the audience “to think, really think, about what you are saying.”

So he paused for a moment, then he said, “Did we ever tell the cod ‘Thank you’ for visiting us every year? Did we even ever wonder *why* they visit us every year? They just do . . . so that we can go fishing and haul them up in our nets. Deliver them to the wharf and receive our check in the mail. So that we can buy a bigger boat, a bigger car, a plane ticket to Spain. But did we ever tell the cod, ‘Thank you’?”

He could ask nearly the same question—Do we ever tell the Creator, ‘Thank you’?—but other students were going to talk about the Creator. His topic was the Warming Oceans.

“Vibeke told us that the oceans are warming. The warmer water melts the ice from underneath, with great consequences. But that’s not all.

“The oceans store the heat from the sun. The warmer the surface becomes, the more readily the water will evaporate into the atmosphere. The vapor which has evaporated carries an unnatural amount of heat, an unnatural amount of energy. That heat energy becomes the kinetic energy in the winds that blow in our atmosphere. And the more heat energy that rises from the oceans, the more kinetic energy there will be to power those winds. In other words, the warmer the oceans, the stronger the winds. The warmer the oceans . . . the bigger the storms.”

He paused to let the fishermen think about those storms.

To let the families of fishermen—the wives and sisters and mothers and children—think about those storms.

“When Hurricane Katrina was heading from the Atlantic Ocean toward Florida, it was a normal hurricane, no more worrisome than all the others. As it crossed over Florida, it did little damage. It even became weaker, because it was over land, and no longer drawing water vapor and thus heat from the ocean. But when Hurricane Katrina moved from Florida to the Gulf of Mexico, it quickly grew into a monster storm. Why? Because the waters of the Gulf of Mexico were unusually warm. Unnaturally warm. And all that extra heat from the sea . . . went right into the winds. By the time Hurricane Katrina hit New Orleans, it was a monster storm, with unprecedented winds that caused unprecedented devastation.

“Then of course there was Hurricane Sandy, which took energy from the sun, energy which had warmed the Atlantic Ocean . . . energy which then powered the hurricane winds, energy which drove huge

waves and a battering storm surge, energy which blew up Broadway and drenched the city streets with a flood of rain. Energy which blew through buildings as if they were built with wet cardboard. Hurricane Sandy was a monster storm.

“My friends, those monster storms are just getting started. Because we, we, keep warming the oceans.”

He paused. That was Point One on the list.

“But that’s not all. Hidden from our eyes, those monster storms are also battering the coral reefs, which are home to multitudes of creatures. The monster storms are battering kelp forests, which are home to multitudes of creatures. We take pictures of a flooded New York subway station, of a battered Brooklyn, but who takes pictures of a devastated reef to show on the news?”

Børge looked over at Johan Erik, the kid who had been such a pain in the ass for so many years about his “climate change”. The kid who had been so odd, so “intense”, so boring. The kid who had been Right.

Then he looked again out at the audience. “But that’s not all. When the oceans warm, the coral reefs slowly die. The tiny cells of algae that live symbiotically inside the cells of coral . . . disappear, leaving the coral ‘bleached’. The coral needs that algae, and without it, the entire reef slowly dies. And when the reef dies, the enormous, complex underwater habitat dies. The home to a myriad of fish and shrimp and snails and sea urchins dies. We don’t see it. We don’t notice. But this devastation—this massive death—is already happening. *Is already happening.*”

“But that’s not all. As the oceans warm, invasive species which prefer warmer water . . . move in. Various forms of bacteria move in. Various diseases can move in. And native species, which need a particular temperature to thrive, are forced to migrate toward—if they can find it—the cool temperatures that they are used to. We don’t see it. We don’t notice the forced migrations hidden beneath the surface of the sea.

“For example, our cod need water that is four degrees centigrade in order to spawn. We don’t know why. Maybe the eggs released from the female need that specific temperature. Maybe the sperm like that cold water. Maybe the new hatchlings need exactly four degrees centigrade in order to live. We don’t know. But . . . what happens if our seas warm to temperatures in February and March and April *above* four degrees centigrade. The cod will go elsewhere, searching for the cold water that they need. If . . . they can find it.”

Let the fishermen think about that. Because it will be a long, long time before the warming oceans cool down again.

“Likewise, as the oceans warm, the ability of other species to reproduce . . . also diminishes. Krill, the small shrimp of the polar seas, show a reduced ability to reproduce as their waters warm. Krill are a major part of the food chain. Fewer krill mean fewer dinners for schools of fish. Including our beloved cod.

“But that’s not all. As the oceans warm, their capacity to absorb carbon dioxide diminishes. Cold water can absorb more of this gas from the atmosphere than warm water can. That is simply a law of physics. The oceans have absorbed an immense amount of our carbon dioxide pollution over the past two centuries. But as the oceans warm, they will be able to absorb less and less CO₂. So the carbon dioxide will stay in the atmosphere, the blanket that holds in the heat will become thicker and thicker, and the world will become warmer and warmer.

“But that’s not all. As water becomes warmer, it expands. And so, in addition to all of the melting glaciers that pour their water into the oceans, raising the sea level, the oceans *themselves* will increase in volume . . . simply because they are becoming warmer. Thus, two major factors cause a rise

in sea level. At some point, the Norwegian Sea, on a warm sunny day in May, will be sloshing through the streets of Henningsvær.

“But that’s not all. And here comes the Big One. The Gulf Stream, as we all know, brings its heat across the North Atlantic to the shores of Europe. The Gulf Stream keeps our own waters free of ice throughout the winter. In February, March and April, we can go fishing for the cod, even though further south, in the Baltic Sea, in the Gulf of Bothnia, in the Oslofjord, ice keeps most of the boats in their harbors until spring.

“But what happens to the Gulf Stream after it flows north along the coast of Norway, blessing us with its warmth? It becomes colder, and thus denser. And because of the winds which evaporate water from the surface, leaving the salt behind, it becomes saltier, and thus denser. The Gulf Stream, cold and salty and dense, *sinks* when it reaches the arctic latitudes . . . sinks down to the bottom, and then travels at great depths around the globe . . . until it resurfaces and crosses from Africa to Central America just above the equator, baking in the hot sun and thus becoming warm again.

“But . . . what happens when the Gulf Stream is diluted with fresh water from the melting polar ice cap? It does not become as dense, and thus has less inclination to sink. And what happens when the Gulf Stream becomes unnaturally warm, because the oceans are warming, and thus does not become as cold as it usually does in the northern latitudes? It does not become as dense as it usually does. And, once again, it has less inclination to sink. The Gulf Stream becomes something *different*, not as cold, not as salty, and so it does not follow its old route. It sinks partially, wanders off, backs up on itself. Becomes a muddle of confused water. And the cod, which since forever have swum against the Gulf Stream from Russian waters to Norwegian waters to spawn . . . What do the cod do when this ancient river disappears? What do the eggs do, and the hatchlings, which used to ride this great river from the waters of Norway to the waters north of Russia?”

Børge thumped his fist on the podium. “No Gulf Stream, no cod, no eggs, no hatchlings. No fishermen.”

He waited for a long moment, then he said, anger in his voice, “So Vibeke was right. We cannot wait any longer.”

Let those be the last words.

He nodded his thanks to Johan Erik, then left the podium and walked toward his seat beside Vibeke, who looked at him with something entirely new in her eyes.

Chapter Forty-Four

Johan Erik said into the microphones, “I now have the great pleasure to welcome Vidar, from the Enterprising Eighth Grade, to the podium.”

Johan Erik shook Vidar’s hand, then he sat in his chair off to one side.

Vidar, known to everyone in Henningsvær as “The Kid Who Never Slept”, because he was so often out night after night with his camera, taking world-class pictures of the northern lights, stood at the podium and looked at people who had his pictures on the walls of their homes and offices. Yes, it was true that only on cloudy nights did he get eight hours of sleep. And yes, it was true that after clear nights, he dozed through much of mathematics and biology and English. (Though he revived at lunch.) But this morning, he was wide awake and sharp.

His hands were trembling as he gripped the podium. His voice—the voice of a fourteen-year-old—tended to crack (very embarrassing) now and then. He took a deep breath, then he said into the twin microphones, “First, we need to understand that between thirty to forty percent of the carbon dioxide pollution made by people since the beginning of the Industrial Revolution . . . has been absorbed by the oceans of the world. I repeat: thirty to forty percent of our carbon dioxide has been absorbed by the oceans.

“This carbon dioxide combines with water to form carbonic acid.”

He nodded to Ulf, who projected onto the screen the chemical formula, **CO₂ + H₂O becomes H₂CO₃ (carbonic acid).**

Vidar explained, to the wonder of many who thought that he had slept through chemistry class, “Since the beginning of the Industrial Revolution, during the early 1800s, when people began to burn coal on a massive scale to power their steam engines, acidic hydrogen ions have increased in surface ocean waters by roughly 29%. That is a *substantial increase* in ocean acidity.”

It was much easier to take pictures while alone on a frigid arctic night, than it was to stand in front of hundreds of people in an audience, staring at him. Nevertheless, he continued, “We humans may not feel that increase in acidity. Our hands don’t burn when we reach into the sea. But the tiny creatures, the delicate creatures, which live in the sea may very definitely feel that increase in acidity. You bet they do.”

He nodded to Ulf, who put a slide on the screen showing **CaCO₃ calcium carbonate.**

“Many creatures in the sea have a shell made of calcium carbonate. When we peel the shell off a shrimp before we eat that shrimp, we are peeling off calcium carbonate. When we find a pretty shell on the beach and pick it up, we are picking up calcium carbonate. When we go on vacation and snorkel over a coral reef, we are looking at massive amounts of calcium carbonate. CaCO₃ is one of the major building blocks of life in the ocean.

“But . . . things are changing now. Because carbonic acid dissolves calcium carbonate. The acid dissolves shells that already exist. The acid makes it difficult for a multitude of creatures to form a shell. The acid makes it almost impossible for tiny, newly hatched creatures to form their first shell. The acid . . . devastates life cycles. The acid . . . devastates food chains. *And this is happening now.*”

His audience was silent. They were listening.

“But, as Børge told us, that’s not all. Not only are the oceans becoming more acidic. They are becoming more acidic at a *faster rate*. The process, like many other processes in our changing world, is accelerating. A recent article in the journal *Science* reported that the current rate of ocean acidification is faster than at any time in the past 300 million years. Did you catch that? Cores of ocean bottoms, and

cores of ancient ice, show us unequivocally that not only is today's ocean acidity unprecedented, but that it is getting worse faster than at any time in the past 300 million years.

“Those of you who still believe that climate change is ‘just another natural cycle’ have not done your homework. Because the rate of change—the *rate* of change—does not fit within any previous cycle. Changes that may have taken place over hundreds of thousands of years, are now happening in decades. And the process is not a stable rate of increase, but an *accelerating* rate of increase.

“Thomas Lovejoy, a former advisor to the World Bank, has stated that **‘the acidity of the oceans will more than double in the next forty years. This rate is 100 times faster than any changes in ocean acidity in the last 20 million years, making it unlikely that marine life can somehow adapt to the changes.’**

“Did you get it? The water in our oceans, in our ‘cradle of life’, as Johan Erik calls it, is changing faster than life can adapt. We, we, are poisoning the waters of Creation.”

He looked over at Johan Erik with a nod of gratitude.

Then he scanned the grim faces of his audience and told them, “We are diluting the waters of the ocean with melted ice, so that the oceans are less salty. We are warming the oceans. We are making the oceans more acidic. What if we did that to your blood? What if we diluted the salt in your blood? What if we gave you a long-term fever of a degree or two? What if we made your blood 29% more acidic? How do you think you would feel?”

Even the old fishermen could understand that. Even the doubters could understand that. Even the little kids could understand that.

“So . . . One more question. How much longer . . .” He raised his voice with anger, “How much *longer*, do we keep pumping our filth into the atmosphere? How much longer, do we keep warming the oceans? How much longer, do we willfully put life in the oceans on a path to increasing devastation, and ultimate extinction? How much longer do we spit in the face of the Creator?”

Heavy stuff from a fourteen-year-old kid. From a fourteen-year-old kid who wasn't going to ignore the crap any longer.

“Before I leave this podium, I would like to introduce you to a friend of mine.” He nodded to Ulf, who put on the screen a picture of a snail with a coiled, nearly transparent shell. “This is a pteropod, a snail that is so light and fragile that it drifts with neutral buoyancy in the sea. It does not creep across the bottom. It does not cling to rocks. The pteropod *drifts*, in huge schools, near the surface of the oceans.

“Like krill, like herring, the pteropod, only a centimeter in diameter, is a vital part of the food chain. But the pteropod is not as rough and tough as the krill and the herring. Its shell is so thin that you can see the animal inside.”

People looked more closely at the picture of this unusual snail. Yes, they could see the flesh of its body coiled inside the thin shell.

“The shell of the pteropod is made of calcium carbonate. What happens when the oceans become increasingly acidic? What happens to these beautiful, delicate, one-of-a-kind creatures? What happens to these hidden jewels in our world, *as their shells dissolve*?”

“Maybe it would help if, one by one, our cats dissolved and disappeared. Maybe it would help if our dogs dissolved and disappeared. Maybe then we would notice.”

Vidar paused, then he told his audience, “That, my friends, is what I have to say about ocean acidification.”

Chapter Forty-Five

Berit had just stepped out of the conference room to check on things in the kitchen next door, when she spotted a man wearing a suit and tie walking toward her along the wharf. He carried a briefcase in one hand and a laptop case in the other. She guessed that he must be the representative from NordOil, who had come to debate with Sigurd on 'The Future of Oil in Norway'.

"Hello," she called to him. "Might you be the fellow from NordOil?"

"Yes," he said. "I just spoke with a woman in the reception office. She directed me to a red building beyond the white building." He nodded toward the red conference building, its front brightly lit by the morning sun. "That must be it."

"Yes, we've already started. I am Berit Jacobsen, one of the conference organizers."

"Fine," he said, as if relieved to have found someone of some authority here. "I am Edvard Hansen, an economist from the NordOil office in Stavanger."

"We were expecting you yesterday evening."

"Yes, well, I had some difficulty with the flights."

"Never mind. At least you're here. You are scheduled to debate with a young fellow named Sigurd at about eleven o'clock, right after coffee and waffles." She looked at her watch. "You've got time to hear a couple of the speakers before the break."

"I must clarify that I am not here to debate with some student. I have brought an economic presentation, about half an hour of Powerpoint slides. I will need some time to get set up. You do have a table and screen?"

"But . . ." She knew the type. The London suit, the silk tie, the attitude. She had dealt with dozens of them over the years, as various corporate groups rented the *rorbuer* and conference hall. They wrote the rules, they broke the rules.

But this time, Edvard Hansen had broken his word with her son.

"Come with me, Mister Hansen." She would walk him right into the lion's den.

She led him through the door into the crowded conference room, then to the left along the open windows that let in the breeze from the sea, and now along the left side of the room (in front of people who stood against the wall because there were no more chairs), toward her son, Johan Erik, who had just stood up from his chair to lead the applause for Vidar.

"Johan Erik," she said with a quiet but very firm voice.

He looked toward her, looked at the man who accompanied her, then smiled with relief and welcome: Sigurd's debate partner had finally arrived.

"Johan Erik, this is Edvard Hansen from NordOil in Stavanger."

"Hello, Mister Hansen. We are very glad to see you. But we expected you yesterday evening. We wanted to go over the schedule with you, and introduce you to Sigurd, your sparring partner."

"Yes, well, I am sorry for the delay. My flight yesterday evening from Bodø to Svolvær was cancelled. I had to take the morning flight."

"Oh. I am sorry to hear that."

Yes, Johan Erik was very sorry to hear that. Because the reporter from a newspaper in Oslo had been on that flight, as well as an official from the Ministry of Education. Both of them were right now seated in the conference hall, listening to the student speakers.

Johan Erik knew that. His mother knew that as well.

"Mister Hansen," said his mother, "has informed me that he is not here to debate with Sigurd. He would like to make a half-hour Powerpoint presentation on . . . What is your subject, Mister Hansen?"

“The Economic Benefits of Drilling for Oil in the Waters of the Lofoten.”

“Oh,” said Johan Erik’s mother.

Johan Erik knew when his mother was angry. It didn’t happen often—as a boy growing up, he had learned at a young age to behave himself, or else—but when it did, even the great wall of mountains to the north began to tremble.

“Perhaps,” said his mother, “before our next speaker begins, you might introduce Mister Hansen to our audience. Then he can explain himself what sort of presentation he would like to make.”

“Good idea,” said Johan Erik.

He gave Edvard Hansen a cordial nod, then he walked to the podium—as Vidar was taking his seat—and said into the microphones, “Before our next speaker begins, I would like to announce a possible change in our program. Mister Edvard Hansen, from NordOil in Stavanger, who had previously agreed to participate in a debate with Sigurd on ‘The Future of Oil in Norway’, would rather—as he has just informed me—give a half-hour Powerpoint presentation on ‘The Economic Benefits of Drilling for Oil in the Waters of the Lofoten’.”

Johan Erik paused while this news registered with the audience. Sigurd stared at his brother, stunned. People looked at the man with the suit and tie and his two briefcases.

Johan Erik continued, “Edvard Hansen would like to explain to you this possible change in our program.”

Johan Erik stepped away from the podium, then, with a sweeping gesture of his hand, he invited this Mister Hansen to address the audience.

Edvard Hansen approached the podium, set down his briefcase and laptop, looked out at the audience with his best boardroom visage and told them, “I come to speak with you today about the economic benefits which would accrue to a beautiful and historic fishing village such as Henningsvær, from a policy—a national policy—of the exploration and harvesting of a natural resource in your bountiful seas. As an economist, I would like to acquaint you with the figures which indicate, according to our calculations, the enormous financial gains which would be enjoyed by the people of Henningsvær from the exploration for, and tapping of, the potentially vast resources of oil in your waters. I see that you already have a screen. If I could take a moment to connect my laptop with your projector—”

“Wait a moment!”

Sven Jacobsen, father of Sigurd Jacobsen, stood up in the audience. “We spent several weeks communicating with NordOil in Stavanger, and came to an agreement that a representative from your company would debate with one of our students. Is that not correct?”

“Yes, well, we thought that interests all around would be best served if I made a presentation based on the best scientific research. As a professional economist—”

“You’re saying that these kids have not done their research?”

“Well, kids are kids, as you know. I remember,” he smiled winningly, “giving a talk when I was in high school about dinosaurs. Well, I of course thought it was quite a report, but I was certainly no expert on early reptilian history.”

“Sigurd is not in high school. He is in sixth grade.”

Edvard Hansen provided his audience with a brief contemptuous laugh. “I am sorry, I but hardly came here to debate with someone from the sixth grade.”

The room was absolutely silent, save for the shrill cry of a seagull outside the windows.

Vibeke stood up and asked, “What if you start drilling for oil in the Lofoten, and you have a disaster like the BP disaster in the Gulf of Mexico? It took the Americans *weeks* before they could cap that oil leak. Do you think we want all that oil on our beautiful islands?”

Her words prompted scattered applause.

“I come to you as an economist,” said Edvard Hansen, “not as an engineer. Thus, I am not prepared to answer your question. In any case, NordOil has an excellent record, as you know, of avoiding any such accidents and spills. In our over thirty years of drilling in the North Sea—”

“What about the Arctic Ocean,” said Sigurd, standing up from his front row chair. “Are you planning to drill in the Arctic Ocean?”

Edvard Hansen grimaced with unhidden frustration. These people, these children, just did not understand. “As I have said, I come to you as an economist, not as an engineer. Thus I am not prepared to address the issue of drilling in the Arctic Ocean.”

“I am not prepared!” called a voice from the audience, a voice which belonged to the Rambunctious Sixth Graders.

“I am not prepared!” echoed several more student voices in vibrant synchrony.

Edvard Hansen began to realize that he was facing an audience which was potentially hostile.

Now Uncle Lars stood up. “Mister Hansen, we invited you to participate in a conference during which we all learn from each other. These students have done an enormous amount of work—research work, which includes library research, online research, and correspondence with professionals in various fields from all over the world—so that they can share what they have learned with the members of their community.”

A murmur of agreement filled the room.

“But you seem not to want to hear what these students—these ‘kids’, as you call them—have to say. You seem to be, if I may be very blunt, a bit condescending toward the idea of a debate with a sixth grader. But let me tell you, that you greatly miscalculate their abilities. Their motivation. Their sense of urgency. And their courage as they face the daunting challenges which our generation, Mister Hansen, is dumping into their laps.”

Scattered clapping became growing and sustained applause, from parents, from grandparents, from friends and neighbors, who were enormously proud of what this young generation was doing in Henningsvær today.

“Mister Hansen,” continued Uncle Lars, surgeon from Henningsvær, “we invite you to listen to these young people. Because it is *these* people who will soon inherit a changing and very troubled world. They are looking for the answers, for the *long-term* answers. They do not measure their success in terms of the number of barrels of oil pumped up from the bottom of the sea. They do not measure their success in terms of the eventual profits from this risky venture. Mister Hansen, they will measure their success, over the course of the twenty-first century, by whether or not their village of Henningsvær *survives* the unprecedented hurricanes. They will measure their success by whether or not their country can survive unprecedented shifting of the ocean currents, unprecedented warming and disease, unprecedented invasions by desperate people coming from that very big country next door, Russia.

“Yes, we invite you to listen to these students. Because they will tell you, Mister Hansen, that every barrel of oil which we burn ends up in the atmosphere. All of your Powerpoint charts and graphs will never alter that fundamental fact.”

“That’s right,” said Laila Jacobsen, mother of Lars Jacobsen, grandmother of Sigurd Jacobsen. “We invite you to listen to these young people who are no longer hiding from the truth.”

Edvard Hansen looked as if he were already thinking about the plane from Svolvær to Bodø. To Oslo. To Stavanger.

Louise Jacobsen, wife of Doctor Lars Jacobsen, aunt of Sigurd Jacobsen, stood up and announced, “I’m willing to stand, so that Edvard Hansen can have my chair.”

A voice called out, the voice perhaps of a sixth grader, “I’m willing to stand, so that Edvard Hansen can have my chair.”

Ten voices echoed with admirable synchrony, “I’m willing to stand, so that Edvard Hansen can have my chair!”

Sigurd, still standing in front of his front row chair, stepped away from that chair and gestured with a gracious sweep of his hand, “Please, Mister Hansen, won’t you be seated?”

And so Edvard Hansen, economist from Stavanger, with no other options available—except to disappear rudely out the door—walked with his briefcase and laptop from the podium to the empty front row seat, where he sat down between Wasim on one side and Rashida on the other. He set his briefcase on his lap, set his laptop on top of the briefcase, folded his hands atop both of them and stared forward, perhaps planning his escape during the waffles and coffee.

Chapter Forty-Six

Johan Erik addressed the audience, with its one new member, “I now have the great pleasure to welcome Anne-Kari, from the Incomparable Ninth Grade, to the podium. She too will speak about one of the great challenges facing our young generation.”

Johan Erik shook Anne-Kari’s hand, then he sat in his chair off to one side.

Anne-Kari was less nervous than she thought she would be. The preceding speakers had done so well that she had begun to relax. She could do this.

Now . . . what was the first sentence?

Ah. Of course.

“Methane is the monster. Methane is the *big* monster, hidden in the far north beneath the frozen tundra, hidden at the bottom of the Arctic Ocean.

“Methane never bothered us much before, so we’re not paying much attention to it now. This natural gas, CH₄, is not going to come roaring at us like a hurricane. Instead, it will seep out of the melting tundra; it will bubble up from the bottom of northern lakes and seas. Unless we are paying close attention, we might never notice that methane is creeping into our lives.”

Anne-Kari looked at the faces of the people of Henningsvær, the best place in the whole world for a kid to grow up. For a *student* to grow up. The people she knew and loved were paying close attention.

“Frozen tundra forms a ring around the top of the world, in the northern reaches of Scandinavia, Russia, Alaska and Canada. The area of frozen tundra is enormous: sixty percent of Russia is covered by frozen tundra. Vast portions of Canada are covered by frozen tundra. We are talking, as you have heard the other students say, about things ‘on a planetary scale.’

“The upper few meters of tundra may thaw to some degree during the summer, but below that ‘active’ layer is a layer of soil and ancient organic material that is capped by permanent ice. The moss and shrubs and trees that grew before the last ice age . . . became frozen as the world cooled, eons ago; they were then buried beneath massive amounts of snow and ice.

“Twelve thousand years ago, when the last of that ice had finally melted, the soil and organic remains deep below the sunlit surface remained frozen. That frozen tundra, still frozen today, is the last vestige of the most recent ice age, still unwarmed, still unmelted, by the brief summer sun.

“Until now. Because now it is not just the brief summer sun that warms the frozen tundra. As you know, the northern seas are warming, and the northern atmosphere is warming, at an unprecedented rate. The arctic region is warming at least *twice* as fast as the lower portions of the northern hemisphere, a fact called ‘arctic amplification’. Why? Because the polar ice cap, a vast area of reflective ice, is being replaced by dark open water, which absorbs the heat from the sun. How much heat is that? Vibeke’s heroine, Professor Jennifer Francis, tells us that the amount of unprecedented, unnatural heat which the Arctic Ocean now absorbs, and then releases into the arctic atmosphere, during *one* summer and autumn, equals the amount of energy that would power the United States of America for twenty-five years.

“Did you catch that? The energy that would power three hundred million industrialized people for a quarter of a century, is equal to the amount of energy presently heating the arctic during one half-year period. And do we think this is not going to affect our weather?”

For fifteen years, Anne-Kari had been a nice, easy-going girl, a little shy, but with a sense of humor when she was with her friends. Now . . . well, she had grown up at an unprecedented rate during the last two and a half months. And ninety percent of what she had learned from all those articles and

websites and emails that had opened her eyes . . . she never would have learned in the same old biology and chemistry classes that teachers dished out year after year.

Certainly, nobody—until Johan Erik—had ever told her about the Methane Monster. She glanced over at him, and sighed from a broken heart . . . a heart that would love him for the rest of her life. She knew that she could never compete with someone like Rashida. Johan Erik gave her a nod of encouragement, the most she could ever hope for.

So she turned again to her audience and told them, “Let’s look more closely at the Methane Monster.

“As the upper tundra melts more and more every summer, the deeper tundra will melt more and more every summer, and for the first time in eons, that ancient organic material will begin to release methane. Ancient methane from decomposition by bacteria eons ago, which had been trapped by the ice. And new methane, from decomposition by bacteria today. A great ring of newly exposed organic material will begin to rot, to *rot*, releasing methane gas on a planetary scale.

“Now keep in mind that methane is a much more powerful greenhouse gas than carbon dioxide. CH₄ traps more heat than CO₂. Methane breaks down more quickly in the atmosphere than carbon dioxide, but for the first twelve years, methane traps a hundred times more heat than carbon dioxide. The blanket of carbon dioxide, holding in the sun’s heat, just got a whole lot thicker.

“So what happens now? The warming Earth has melted the tundra, which releases growing amounts of methane. The methane accelerates the warming process, so that *even more* of the tundra melts. This positive feedback—a system which feeds itself and thus grows—is irreversible.” She looked, she stared, she glared at her audience. “This release of methane is *irreversible*. Once the process gets started—and remember, the methane is already seeping, already bubbling up—nothing, *nothing*, is going to stop it until all of the tundra has thawed and all of the methane has been released.

“And then we wait. At least, those few survivors on planet Earth will wait . . . until the methane slowly breaks down in the atmosphere. But what does it do as it breaks down? The CH₄ oxidizes—it joins with oxygen atoms—to form CO₂, our old friend carbon dioxide. So one greenhouse gas becomes another greenhouse gas, which has a much longer lifetime in the atmosphere. Even when the methane has completely broken down, its remnants remain, still heating the Earth.”

She asked, her voice sharp, “Will the fever ever end?”

She felt it now, the anger that had surprised her as she read all those articles and websites about methane, then listened to Jennifer Francis speaking on the YouTubes.

It had been the first time in her life that something from the big world outside of Henningsvær had made her angry. And worried. And afraid.

“So, my friends from Henningsvær, and my friends who are listening at schools throughout the Lofoten, what are we going to do about this Methane Monster?

“Ignore it?

“Wait for the government to figure it out?

“Wait for technology to fix it?

“Go back to sleep while the Oil Boys drill in the Arctic?” She glared at the creep in his suit in the front row. “I wonder if Mister Powerpoint has anything to say about the Methane Monster?”

When he did not answer, but glared back at her with equal ice age frigidity, a chorus from the audience filled the gap, “I am not prepared! I am not prepared!”

Anne-Kari smiled, for she could hear a few adult voices mixed in with the voices of the ‘kids’.

“Before I conclude, I would like to add that the tundra is not the only source of methane. CH₄ is bound with water in a compound called methane hydrate, frozen at the bottom of the Arctic Ocean. Of

course, as the Arctic Ocean warms, this compound can melt, releasing—again—planetary amounts of methane into the atmosphere. We have already seen the bubbles rising from the bottom of the sea.

“And yes, methane comes from farting cows, and from rice paddies, and from land fills. But this amount of methane is peanuts compared to the monster that we are about to let loose.”

One more thing. She wanted to say one more thing.

“Before I finish this report, I want to say ‘Thank you’. Thank you to my fellow students, thank you to Henningsvær School, thank you to my friends and neighbors in most friendly and loving and beautiful little village in all the world . . . for enabling me to wake up. Before, I was a kitten. Now, I am a cat . . . with claws.

“I did not think much before about going to college. I thought that I would finish high school, marry some lucky guy,” she grinned, “then raise a bunch of kids in the village that I love so much. But now, I’ve got my eye on an engineering degree from the University of Trondheim.” Her father and her mother stared at her. She could feel the tears coming. She could also feel the strength in her resolution. “Three months ago, I couldn’t have told you the difference between a wind turbine and a tulip. But now, I want to design the wind turbine that will put poor Mister Powerpoint out of business.”

The audience applauded her decision; Mister Powerpoint wilted.

“So I want to say ‘Thank you’, for enabling a girl who was about to be eaten by a monster, to become a young woman with a very exciting purpose in her life.”

As she walked from the podium to her empty seat in the front row, she did not care who saw the tears running down her cheeks.

Chapter Forty-Seven

Johan Erik stood at the podium for a long minute, waiting for the audience to settle down. He looked over at his father at the left end of the second row: his father shook two fists in the air, two fists of triumph. Now it was Johan Erik's turn to feel the tears coming. But not yet. Not yet.

He said into the microphones, "I now have the great pleasure to welcome Cecilie, from the Spectacular Seventh Grade, to the podium. Cecilie is going to elaborate for us on the theme of 'Warmth'."

Johan Erik shook Cecilie's hand, then he sat in his chair off to one side.

Cecilie, thirteen years old, tall and slender, had climbed three times with her mother and father to the absolute top of one of the peaks of Vågakallen, the wall of mountains that towered north of Henningsvær. Three times, she had already done something that was equal, she felt, to a high school degree. Then she had learned, during these past two and a half months, that there were other mountain peaks waiting for her to climb: at a university, at a graduate school of law, and—she was determined—at the World Court. Where she would take on the Oil Boys.

Yes, Mother Earth was waiting for her to climb those peaks. So that she could rewrite the rules. And stop the legal crimes that now plagued her future.

She glanced at her mother and father in the second row and gave them a quick smile.

Then she gripped the podium and said into the microphones, "Yes, the world is getting warmer. According to ice cores from Greenland, according to cores taken from the bottom of the Arctic Ocean, we would have to go back 125,000 years to find an Arctic as warm as it is today. At that time, the sea level was six to eight meters higher than our present sea level. Which means . . . we have lit the fire, and now we're going to watch the house burn."

She signaled to Ulf, who put a graph on the screen.

"In 1985, a French-Soviet research team drilling at the Vostok Station in central Antarctica gradually assembled an ice core two kilometers long, containing a detailed record reaching back 150,000 years. This record showed both the level of CO₂ in the atmosphere, and atmospheric temperatures, through an entire glacial period.

"You can see two zigzagging lines on the graph. The upper line shows CO₂ levels, in parts per million. The bottom line shows temperature, as determined from measurements of the isotope Deuterium. You can see that during this extremely long period of 150,000 years—encompassing an entire ice age from warmth to cold to warmth again—the two lines follow each other closely. They spike together, they sharply descend together. Clearly there is a close correlation between CO₂ levels and temperature. As CO₂ rises, temperature rises. As CO₂ falls, temperature falls."

She paused, then she told her audience, "Other ice core research shows that the level of carbon dioxide in our global atmosphere today is higher than it has been during the last 650,000 years. Most of this carbon dioxide entered the atmosphere during the past two hundred years: during the Industrial Revolution. The rise in temperature today lags behind the abrupt rise in CO₂ from our coal and oil. But, you can be sure, the rise in temperature will catch up to the spike in CO₂. It always does."

She paused, then she said again, "We have lit the fire, and now we're going to watch the house burn."

She signaled to Ulf; the screen went dark.

"As Børge reminded us, 'But that's not all.'"

“As the oceans become warmer, more and more water will evaporate from the windswept surface. Keep in mind that water vapor is also a greenhouse gas. Once again, the positive feedback creates an irreversible catastrophe: the worse it gets, the worse it gets.

“As the Arctic warms, less snow falls in the springtime. Areas of northern land which were once covered with reflective snow in April and May, are now becoming vast areas of bare land which *absorb* the springtime sun. Again, unnatural amounts of heat are retained, and later given off to the atmosphere.

“A new record was set during the summer of 2012. Whereas previously, only limited portions of the glacier which covers Greenland had melted during the warm summer months, during the summer of 2012, 98% of the surface ice of the Greenland glacier was melting. Even at the highest elevations, even at the highest latitudes, the surface ice was melting. Water that had been frozen for eons, was trickling and streaming and pouring down crevasses in the Greenland glacier. The rot, the *rot*, has begun.”

Cecilie found that she liked very much speaking into these microphones. She wanted to be heard. Right now, her voice was being carried to the Lofoten, to Bodø, to Trondheim, to Tromsø, to Guovdageaidnu, to Oslo. And perhaps further.

One day, she would speak from Brussels, from Geneva, from The Hague.

“Some of this unnatural heat, captured by the blanket of pollution that wraps around the Earth, is eventually hidden *deep* in the oceans. Scientists are now measuring the unprecedented warming of water below seven hundred meters. And at the same time, the upper troposphere of our atmosphere is warming. Way down deep, and way up high, it’s already happening.”

The chorus of bright young voices in the audience began the chant, “It’s already happening! It’s already happening! It’s already happening! It’s already happening!”

She felt a shiver of gratitude. She was not alone.

“We cannot predict for sure, of course, but some scientists have warned us that with a 3.5 degree warming—not all that much—life on Earth could suffer a forty to seventy percent extinction. How long will it take for the Earth to warm 3.5 degrees? We do not know.”

The chorus chanted, “We do not know! We do not know! We do not know!”

“Heat brings drought. Drought brings famine. Famine compels vast numbers of people to move toward someone else’s food and water. Such migrations will inevitably lead to more battles and wars than the nightly news could ever cover.

“As the world gradually warms, birds and insects from the tropics will move north. Bacteria and diseases from southern climes will move north. How long will it be before the mosquitoes that swarm over the Sami tundra carry malaria?”

The chorus was silent, but everyone knew: We do not know.

“I am thirteen years old, just barely a teenager. I have been to Sunday School and to church for as long as I can remember. But I do not recall ever hearing any sermons about a thirteen-year-old girl who changed the course of history.

“I have been a good student at Henningsvær School, where I have studied biology, and math, and music, and history. But I do not recall ever reading any homework assignments about a girl who changed the course of history.

“And so I call on my fellow students. I hope that they will understand . . . that the chapters of history which we have read in class, are not as important as the chapters of history which we ourselves are about to write.”

The applause, she knew, was heard in the Lofoten, in Bodø, in Tromsø, in Guavdageaidnu, in Trondheim, in Oslo. And perhaps further.

“Thank you,” she said into the microphones. “Thank you.”

Chapter Forty-Eight

Johan Erik looked at his watch, then announced, “Time for waffles and coffee. We’ll take a half-hour break, then resume our program at eleven o’clock with two engaging speakers, followed by questions and discussion.”

As people stood up from their chairs and filled the conference room with a hubbub of excited conversation, Olav kept his eye on Edvard Hansen, who quickly crossed the front of the room to the right side, then made his way through the crowd toward the back of the room and no doubt the door. Olav moved just as quickly toward the left side of the room, hoping to arrive at the door in time to have a word with Mister Hansen.

But Mister Hansen was a bit more adept at weaving his way like a snake through clusters of people, and thus he arrived at the door first. By the time Olav stepped out into the sunshine on the wharf, where people were heading to the right toward the restaurant, he spotted Edvard Hansen hurrying with his two briefcases to the left along an otherwise empty stretch of wharf. Olav followed him.

“Mister Hansen!”

Edvard looked back over his shoulder for a moment, saw an old man with white hair, an old man who would probably spend the next twenty minutes telling him about life on this bit of rock. Looking ahead, Edvard spotted, just beyond the corner of the red building, a staircase leading down from the wharf to the parking lot where he had parked his rental car. He quickened his pace.

Olav reached the top of the staircase as Edvard Hansen was hurrying across a patch of asphalt toward a row of parked cars.

Olav was not going to chase any further, so he cupped his hands and called, “Mister Hansen, before you go back to Stavanger, I wanted to share with you a passage from the Book of Revelations, chapter eleven, verse eighteen.”

Edvard unlocked the passenger door of his car with his electronic key. He leaned inside—the air was hot from the sun shining through the windows—and laid his briefcase on the passenger seat, then carefully laid his laptop atop the briefcase. As he walked around the front of the car to the driver’s door, he glanced one last time at the old man with white hair who stood at the top of the stairs.

With his fisherman’s voice—the voice that had shouted from boat to boat through the winds of countless storms—Olav called, “Your own wrath came, and the appointed time . . . to bring to ruin those ruining the Earth.”

Yes, at the appointed time, the patient Jehovah would no longer restrain his wrath.

Edvard got into the car, pulled the door shut, turned the key, and with great relief left behind a mob of people determined to live their lives in the Dark Ages.

* * *

Lars stood at the railing of the wharf beside Zainab, looking out at the sea in the morning sunshine. They each held a plate of warm waffles in one hand, and they each had placed a blue-and-white cup of coffee on the flat top of the railing. The sun was warm on their faces; the breeze was cool and fresh.

“Zainab,” said Lars, “did you ever think, when we worked together in the refugee camp, that the day would come when a bunch of bright kids would tell us that they were going to rebuild the world?”

“Lars,” she said, “in my country, just a couple of weeks ago, my government used poison gas against its own people. You saw the YouTube videos: men and women in hospitals, frothing at the mouth. Their eyes half open, staring at the camera from the caverns of hell. What choice do we have, but to listen

to these young people who refuse—*refuse*—to accept the world as it is?”

“Brave kids.”

“Yes, very brave kids.”

Lars looked across the water at the red *rorbu* standing alone on a nearby island: Johan Erik’s sanctuary. The bushes and heather that capped the rocky island were a lovely springtime green. This afternoon, after the conference had ended, the family (he thought of family now as singular, not ‘families’, plural) would take the boat out to the island, where they would have a celebration dinner.

“Zainab, I hope that I live long enough to see some real change.”

“Lars, there was a time when . . . I wanted to be with Omar. But now, I think that a mother’s work isn’t done yet.”

Lars lifted his coffee mug. “Let’s toast to that. To the work that isn’t done yet.”

Zainab lifted her mug and they clinked. “Thank you, Lars.”

“Zainab, it is *you* to whom I say ‘Thank you’.”

They drank their coffee, then Lars lifted his face toward the warm sun of May, closed his eyes and said another ‘Thank you’, to the proprietor of this vast celestial mystery.

A few minutes later, Grete and Ragnar joined them at the railing. The last time that Lars and Zainab had seen them was at the picnic on Sheep Island, when Grete and Louise had shown Zainab how to weave yellow flowers into a wreath to wear over her scarf. While Lars took a nap on a bed of moss and heather.

“Good news, Zainab,” said Grete. “The board of education, moving with all the grace and speed of a herd of elephants walking backwards, has accepted you into the midwifery program next September.”

Zainab’s face lit with disbelief that such a thing could ever happen, and joy that it had. Grete taught midwifery at a high school in the nearby town of Kabelvåg. She and Lars had been trying since early March to persuade the school, and the Nordland County board of education, and the Ministry of Education in Oslo, that a middle-aged refugee who had been a midwife in her home country of Syria, and who had shown remarkable progress in her study of the Norwegian language, should—though she had no records of her previous education and work experience—be allowed to enroll in a high school program with entry-level courses leading to further studies at the college level in the field of midwifery. So that a Syrian refugee could become a modern professional midwife. And so that she—one day, after the war ended—could take her knowledge and skills home with her . . . to build a new Syria.

That was Zainab’s dream.

“Grete,” she said, “will you be my teacher?”

“Yes, I will be one of your several teachers.”

“But I,” said Lars, “will be losing my favorite student. I will truly miss our rides together to the hospital. And Trude is going to miss you too.”

Zainab closed her eyes and sent a prayer from this little island in the north to her Allah, who held her life and her fate in his hands.

Lars and Grete, the team that had persevered, watched Zainab’s lips form the silent words, *Al-hamdullah. Al-hamdullah. Al-hamdulla.*

Thank you.

The sea washed against the pilings under the wharf.

Chapter Forty-Nine

After everyone was seated once again in the conference room, refreshed with waffles and energized by strong coffee, Johan Erik looked at Sigurd in the front row—the two had conferred during the break—then he switched on the microphones and said, “Welcome back, everyone, to our morning session on **Climate Change: the Problems**. It seems that we do have a change in the program. The scheduled debate will not take place, but our intrepid Sigurd would nevertheless like to address you with some thoughts about the future of oil.”

Johan Erik reached out a welcoming hand. “Sigurd, from the Pioneering Sixth Grade, the podium is yours.”

The two brothers shook hands—for the first time that either one could remember—then Johan Erik walked to his chair off to one side. He glanced at his mother and father in the second row. He could see, looking between the students in the front row, that his father was holding his mother’s hand.

Sigurd had quickly whittled his debate notes down to one important thought that he wanted his audience to think about.

He walked to the podium, looked from one end of the room to the other at the first audience he had ever addressed in his life, and then he told them, “Yes, the oil companies are waiting for the polar ice cap to melt, so that they can explore for oil in the open waters of the Arctic. Well, I’ll tell you what will happen if we begin to drill for oil in the Arctic. Right behind the exploratory ships from Norway and Russia and America and Canada and China, testing and drilling and setting up their oil rigs, will be naval ships from Norway and Russia and America and Canada and China, with their nuclear missiles on board, protecting the ‘interests’ of their respective oil companies.

“Wherever Big Oil goes, so goes the military. The vanishing ice creates an entirely new battlefield on planet Earth.”

No one, Sigurd knew, was expecting such a statement from a twelve-year-old kid.

“Is that what we want? Is that the future that my generation looks forward to? Do we really want aircraft carriers patrolling the North Pole? Do we want hidden submarines laden with nuclear missiles patrolling the northern coast of Russia?”

“And remember, every barrel of oil brought up from the bottom of the sea ends up in the atmosphere, warming the Earth. We know this. We *know* this.

“One day, my generation is going to get angry enough to say, ‘Not one more barrel.’”

“Not . . . one . . . more.”

He paused, as his brother had taught him to pause.

“A few months ago, I was just a twelve-year-old kid, bored in school, happy out on the football field, convinced that what was most important in the world was on my computer screen. The music, the YouTubes, the war games, which I could so easily either *save* or *delete*.

“Now I see that we are about to delete the polar ice cap. Which is a major step toward deleting the world as we know it on planet Earth.

“So I would like to *save* something. I would like to save that polar ice cap. I would like to save the big white bears that live on it. I would like to save the green algae and the shrimp and the floating snails and the fish that live beneath it. I would like to save a continent, made of ice rather than soil and rock, where a multitude of creatures live . . . creatures which have just as much right to *live* . . . as we do here in Henningsvær.”

Sigurd looked now at his grandparents in the second row, whom he had gotten to know so much

better during the past few weeks.

“But that is not all that I want to save. I have spoken recently with my grandfather and grandmother about something we had never talked about before: April 9, 1940, the day that war came to Norway. Now a kid twelve years old doesn’t usually have much interest in some old war, back in the days of somebody else’s boring history. But my grandfather’s father and mother knew what war was—five years of it—when buildings and ships suddenly blew up, and friends whom they had known for years suddenly died. My grandmother’s mother and father also knew what war was, when neighbors were thrown into prison, or an entire village was shipped to a concentration camp in Germany. And Norway had it good. We were not Poland or London or Russia. Most of us survived.

“Do we want another war? That is the question that my generation must ask when we talk about oil. Because from World War One at the beginning of the twentieth century, to the American war in Iraq at the beginning of the twenty-first century, nations have fought war after war after *war* about oil. If you don’t believe me, then you haven’t done your homework.

“The oil companies talk in terms of money. Every barrel of oil extracted from the Arctic will bring in a certain amount of profit. The shareholders each take a certain percentage. The final argument is always ‘the bottom line’, which takes precedence over everything else.

“But I would ask, on behalf of my generation, ‘Why should a system that has so clearly failed for over a century . . . be allowed to continue for another century?’ Why should one of the most fundamental causes of war be allowed to continue? When do we finally say, ‘*Enough*?’”

He thumped his fist on the podium. “When do we say to oil, and when do we say to war, ‘*Enough*’? Perhaps . . . we begin today.”

Sigurd gave his grandparents a nod of gratitude.

They stared at him, without any response in their faces; they were listening intently to what this boy was saying to the people of their village.

He turned to his audience.

“I have learned, during the past couple of months, two great lessons. One: I have learned an enormous amount about the oceans, about ice cores, about solar radiation, about climate change, about oil, and about the very real threat of war.

“But I have also learned . . . how much I *didn’t* know. I have learned that there are books and websites filled with information, but most of us do not bother to look at them. I have learned that very few people talk about all of this, or even bother to think about all of this. I have learned that there is what my brother calls ‘a great silence,’ while we busy ourselves with other things.

“Well, I am not the twelve-year-old kid today that I was two months ago. Maybe by learning about all of this stuff, I have lost a part of my childhood. But also, maybe by learning about all of this stuff, I have given myself the opportunity to try to save the *rest* of my life . . . on a healthy planet, in a peaceful world.

“I do not stand here before you today in order to win some debate. I am not interested in a prize that I could put on my shelf. I am here to ask you to think about these things, and to *talk* about these things. To read, to study, to learn about what we are doing to ourselves. Especially, I ask my own generation to understand at age twelve, or fourteen, or sixteen, what other generations have understood at age twenty or thirty or fifty: that we have a *huge* job ahead of us, and that we had better get started . . . now.”

He looked at the students from one end of the front row to the other, kids from sixth grade to tenth grade . . . and he felt, for the first time in his life, that he was a part of something big, and exciting, and important, and real.

Then he looked at the audience behind them, the people of Henningsvær, who had previously been

little more than a blur in the background of his life. Not only had his mind begun to grow during the past two months; his heart had grown as well.

“Thank you. Thank you for coming to our conference. We . . . we will never forget this day.”

As he walked back to his chair, he looked at Wasim and gave him a grin. “Your turn now.”

Chapter Fifty

Johan Erik reached out his hand toward Wasim and said, “I now have the great pleasure of welcoming Wasim, also from the Pioneering Sixth Grade, to the podium.”

As Wasim shook Johan Erik’s hand, he showed no nervousness, no stage fright in his eyes. He had a look of exuberant gratitude.

Standing at the podium, Wasim met his mother’s eyes, and felt her strength.

He met Rashida’s eyes, and felt her strength.

Then he looked at the people who filled this big room, people who had brought him from a place where he very well might have died . . . to a place where he had begun to understand what it meant to truly live.

He told them, “Yes, some people say they do not want to see wind turbines spinning where before they saw nothing but trees and blue sky. But I would rather see those wind turbines spinning, than watch the trees die of drought.

“We would do better to ask, ‘What will our grandchildren want to see when they look where we look today?’ Try to see the world through *their* eyes. Wind turbines for them will be as normal as telephone poles are for us today. I doubt that our grandchildren will complain about green trees and a healthy blue sky.

“And yes, some people tell us that the wind could never provide the power that oil provides. But I will tell you that a study by Harvard University reported in 2009 that America has the wind potential to provide *sixteen times* more electricity than people in the United States use today. That same report from Harvard University stated that global wind potential could provide *forty times* more electricity than current power consumption by all the peoples of the world.

“If you do not believe me, you have not been doing your homework. Ask Mister Google.”

Wasim paused, then he added, “If you do not believe me, just step out the door. Most of the time, you can stand with a good steady wind in your face. The winds that blow across the oceans of the world, can power the peoples of the world.”

He shook his head, dubious.

“No, the automobile will never replace the horse. No, airplanes will never fly. No, we will never explore the moon. No, the wind and the sun could never power the entire world.

“Yes, they can. The fault is not in the wind or the sun; the fault is in us. We refuse to believe in ourselves. We refuse to believe in what we *could* do.”

He wished, for a moment, that beside the man in the middle aisle with his video camera . . . stood his brother Ahmed with his telephone camera, making a YouTube for Al Jazeera, so that people in Syria could see the world outside of their war. And could think about what *they* could do.

He wished that his father could sit beside his mother, while the two of them watched their son speak the words that Allah had put into the boy’s heart.

“But we must look beyond megawatts and wind capacities. Because wind turbines can offer us so much more than just clean energy.

“In my part of the world, Syria, we pray to Allah, and we learn from his prophet, Mohammed. In your part of the world, Norway, you pray to God, and you learn from his son, Jesus. And so, as peoples, we seem to be very different. We call each other ‘unbelievers’, and see the worst in each other.

“But the sun that shines on Norway also shines on Syria. And the winds that blow across Syria also blow across Norway. We spin on the same Earth.

“Let us set aside our differences, and take up instead what unites us: the challenges of a warming world, and the benefits of tackling those challenges . . . together. Let us, *together*, accept the sun and the wind as our teachers. Let us, all of us, bring the sun and the wind into the classrooms of the world. Let us share our research, let us share our knowledge, as we educate the first global generation in human history.

“Let us invest not in the weapons of each country, but in the children of the world.

“In fifty years, we will not need those weapons. Perhaps, twenty years will be enough. I think that my generation is very capable of learning to live in peace.”

He looked for a long moment at his sister, who had shared with him what already seemed like more than a normal lifetime.

“When I was living, from August to December, 2012, in a refugee camp in Turkey, close enough to the war in Syria that we could hear artillery shells day and night across the border, very little of what I experienced in the world made sense to me. Every group of refugees who staggered into the camp told stories of horror and devastation back in their home villages. Government jets in the sky would fire missiles at apartment buildings, at schools, at hospitals. Snipers on rooftops would shoot women who dared to go out into the street to find bread for their families. And certainly, the loss of my father, the loss of my brother, made no sense to me.

“But there were two things which *did* make sense. One was the people who came to help us, including Doctor Lars Jacobsen from Henningsvær. They enabled us to believe that yes, not everyone in the world had gone mad. Not everyone in the world was determined to kill children in their homes. *Some* people still had a human heart.”

Wasim looked at Uncle Lars with a nod of profound gratitude.

“The other thing that made sense to me . . . were the solar panels and wind turbines installed outside the camp fence by Turkish engineers. I shall forever be grateful to those engineers, for in the midst of chaos and misery, they brought us light bulbs for our dark tents, and electric fans to ease the summer heat, and radios that connected us with the world beyond our dusty streets.

“I realized—as I worked as an eager assistant to one of those engineers—that somewhere, in some factory, someone was making those solar panels. Someone was building the various parts of those wonderful wind turbines.

“I also realized, for it was obvious, that somewhere in some factory, someone was also making missiles and artillery shells and bullets and bombs.

“That was a big realization for a kid of twelve: that we have a choice when we go to work in the morning. I was the victim of one choice, and the beneficiary of the other choice. In the refugee camp, I saw the difference between those two choices during every day and every night.

“So I believe that wind turbines and solar panels can do something more than produce clean energy. They have the *potential* . . . to lead us in the right direction.

“Let us make use of that potential. Clearly, developing the next generation of artillery shells is not going to make much improvement in the world. But developing the next generation of wind turbines . . . can provide us with a multitude of benefits, many of which we have not yet even imagined.

“Sigurd has spoken about the possibility of a coming war. My mother and sister and I *already know* what war is. It is far worse than you ever could believe. And for those who have been through it, the war never really ends. It *burns* in our minds, as grief that never goes away, as fear that haunts us, as rage that such a thing could ever happen.”

Yes, the grief and the fear and the rage. Why should a kid of twelve be cursed with having to live with all that hideous crap?

He waited until he had calmed; he waited until he had tucked the demons back into the shadows of

his mind.

“Why do I love wind turbines? Because they give me hope. They give me hope that we people can be *better* than we have been. They give me hope that we can scrape the slime of war from our shoes . . . and climb toward the beckoning peaks of mountains that we have never climbed before. They give me hope that we can get up in the morning and go to work doing something that both our Allah and your God can believe in.”

He paused, while people considered both Allah and God in the same thought, in the same room.

“So I ask you today, to believe in yourselves, and to believe in what we *together* could become. By bringing the sun and the wind into our classrooms. And by designing, and building, a wind turbine, a solar collector, a continental grid, and a century of human progress . . . unlike any that have ever been built before.”

He added, “*Inshallah*. God willing. And I think that He is.”

* * *

Because.

Because a new time had come.

When finally, finally, the young ones began to understand.

Life, is a dream seeded in the Earth.

Let my dream live. Let my dream live.

For great is the void of emptiness.

Chapter Fifty-One

Sara sat between her mother and father in the front row, waiting for her turn to speak. People coming from lunch at the restaurant and the picnic tables on the wharf were filling up the chairs behind her; she could hear their lively conversation. Her father had wrapped his arm around her shoulders and gave her a squeeze now and then; he was more nervous than she was. Her mother had her camera ready. She was just as nervous as her father. None of them spoke.

When the other speakers arrived—those students who had spoken in the morning, and those who would speak this afternoon—her father and mother stood up from the chairs and gave her a kiss, her mother on her cheek, her father on her forehead, then they moved to their own chairs in the second row.

Now Johan Erik was back at the podium, welcoming everyone to the afternoon session. “We have looked at the Problems, the bad news, all morning. Now we shall look at the Solutions, the good news, through the course of the afternoon. I am very glad to welcome Sara, from the Industrious Ninth Grade, as our first speaker. She is going to tell us why she loves wind turbines.”

Two months ago, Johan Erik had asked her to speak at the conference about wind turbines. He had given her this big job. As she stood up from her chair and walked—floated—toward the podium, she marveled once again that he had given *her* such an enormous responsibility.

He shook her hand. If it hadn’t been for this conference, they might have spent years in the same school—he one year ahead of her—and never spoken to each other. Even though they came from the same little village. And now . . . he was shaking her hand, because he believed in her. She was the person for this job.

She stood behind the podium, looked at the multitude of silent people staring at her, then she leaned toward the microphones and said, “Hi.”

She had promised herself—and she had practiced, practiced—so that not once in her speech was she going to say “um”.

“My name is Sara. I am in the ninth grade. I am fifteen years old, but I was only fourteen when I visited Danish Wind in January.”

She stopped for a moment. That was a long sentence, but she had said it very well.

“Johan Erik is right. I fell in love with wind turbines. For two reasons. One: they were big and beautiful and they made sense to me. And two: they were part of what Rashida called ‘a Renaissance’. I would like, today, to explain these two reasons for you.”

She looked at Rashida, the girl who at first seemed to have come from a different planet. The girl who, slowly, gradually, had opened a door for her, in a way that no one in Henningsvær had ever done. Rashida had gotten her to think, to think, about so many things she had never thought about before.

Now she said to her audience, “If you Google ‘wind turbines’, near the top of the list of links will be ‘Images’ of wind turbines.” She nodded to Ulf, who put on the screen a Google search for ‘wind turbines’, with ‘Images’ and a few sample pictures as the fourth link on the list. “If you have never done it before, click on this link and then spend ten or fifteen minutes looking at wind turbines on land, and wind turbines in the sea.”

As Ulf clicked on ‘Images’, and now showed picture after picture of wind turbines on the screen, he filled the room with the opening movement of Vivaldi’s *Spring* in the *Four Seasons*: bright, buoyant, energetic music which matched the majestic, graceful, and energetic wind turbines that stood on mountain ridges, that swept the blue sky with their slender white blades, that stood above plains of wheat and corn and cattle, that towered above sailboats on a rippling blue sea.

Sara heard a murmur of wonder, of amazement, as many people for the first time took a good look

at these turbines.

Wind turbines spinning above a thatched village in Africa. Wind turbines spinning beside a rice paddy where a Vietnamese farmer plowed with a water buffalo. A wind turbine that powered an international research base in Antarctica. A row of wind turbines that stood behind an ancient Roman bridge in the hills of Portugal. Wind turbines spinning in the sea near Shanghai, China. Wind turbines standing in a curving row in the sea near Copenhagen. A wind turbine towering above an old windmill in the Netherlands. A wind farm with silhouetted blades sweeping a scarlet sunset over India.

One last picture: “Norway’s contribution, a floating wind turbine called the Hywind, is able to send power from deep-sea locations far from land. The tower is sixty-five meters tall, supporting blades that are eighty meters in diameter. The underwater portion of the tower, called the ‘floater’, reaches down one hundred meters, so it is not much bothered by waves on the surface. The floater can be anchored with cables to a bottom seven hundred meters deep. Thus the Hywind can operate far from shore where no one can see it. And it can operate where the bottom drops off quickly, such as off the coasts of Portugal and Maine.”

She paused, then added, “I must tell you that the innovative Hywind floating wind turbine is supported by NordOil, a company which is at least peeking into the clean future.”

Mild applause from the ninth graders.

Now the music faded; the screen went dark.

Sara asked her audience, “Do you see why I fell in love with wind turbines?”

“Of course, there are some people who *don’t* like wind turbines. They cling to the old myth that wind turbines kill birds. That was true, when we put turbines in the wrong places. But if we put the turbines far from sea eagles, if we put the turbines out of the path of migrating geese, very few birds are harmed. In fact, Audubon, the global organization of bird lovers, has published a list of things that kill birds in America. 52.8% of all birds killed, 550 million a year, die because they fly into buildings, especially windows. Birds are also killed by power lines, cats, vehicles on highways, pesticides, and communication towers. Wind turbines are number seven on the list. Cats are responsible for 10.6% of bird fatalities, roughly one hundred million birds per year. Wind turbines are responsible for .01%, for a total of 28.5 thousand birds per year. Maybe, just maybe, we should be wringing the necks of a hundred million cats.”

She heard the murmur of protest in the audience.

“The *real* threat to birds is climate change: drought, hurricanes, vagrant diseases. The disruption of nature’s seasonal clock. Now we are talking about bird *extinction*. The end of the sea eagle, forever.”

Sara knew how much the people of Henningsvær loved their eagles.

“There are others who protest that wind turbines are noisy. I would like to quote a farmer who has a dozen wind turbines spinning in his fields, ‘It is difficult to distinguish the sound of the turbines from the rustling of corn stalks.’ I have stood myself beneath a turbine in Denmark, and I can tell you that what you hear is ‘Whoosh . . . whoosh . . . whoosh’. That’s it. Your telephone is a lot louder.”

A telephone rang, its thumpa-thumpa rock beat very loud in the quiet room.

“Hello?” said a ninth grader with an equally loud voice. “I can’t talk with you now. I’m listening to a lecture about noisy wind turbines. Yeah, see ya later.”

Sara continued, “Some people argue that wind turbines could never provide all the energy that people need. Wasim has already reported that **‘world wind power potential is forty times greater than total current power consumption.’** Remember, we are in the early years of wind turbines. Danish Wind produced the first commercially available turbines in 1979, which was thirty-four years ago. This is a young industry. But the wind is ready. Yes, the wind has been ready for a long time.”

The sound of the wind blowing through the room came, initially, from the ninth graders. The wind quickly strengthened as sixth graders up to tenth graders contributed their lungs.

“What else? Some people say that wind turbines are impossibly expensive. If these people do their homework, they will learn that the cost of wind turbines has declined steadily as the industry matures. Wind turbines today are 29% less expensive than they were in 2008. Like any young industry—like any child, any teenager—wind turbines have needed government support to get started, but they will soon outgrow the need for that support. After their brief adolescence, wind turbines will be able to pay their own way.

“If you compare thirty years of modest government support for clean energy . . . with over a century of lavish government subsidies for coal and oil, you will be appalled at the unrelenting gluttony of the world’s welfare queens.”

A loud “Boooooooooo!” from the ninth grade.

“What else? Well of course, many people do not want to look out their windows at wind turbines. They would rather look at poverty, they would rather look at smog.

“Wind turbines belong on farms, well outside of towns, where they occupy roughly 2% of the land and provide farming families with a steady income. In many cases, they enable the family to *keep* the family farm, rather than lose it to the bank. Again and again, I have read that farmers love their wind turbines.

“And wind turbines belong out at sea, where the wind is strong and steady, and where they do not bother anybody.

“Europeans know that. By the end of 2012, about a dozen European countries had installed 1,662 offshore wind turbines, quietly and cleanly providing power to millions of onshore homes and businesses. Think of the *jobs* that those wind farms created. Think of the exciting programs in a growing number of schools. Think of all the people who feel *good* about the work they do.

“Meanwhile, by the end of 2012, how many offshore wind turbines did America have, along the Atlantic coast, in the Gulf of Mexico, along the Pacific coast, and in the windy Great Lakes? Zero.

“How many offshore wind turbines does Russia have? Zero.

“China? Three wind farms have been installed and more are quickly coming.

“What is it about America and Russia? They are both decades behind Europe in the field of clean energy, from research and development to actual installation. Both countries have great space programs, but not a single wind turbine standing in the sea. One could wonder, ‘Why?’”

The ninth graders provided their vehement answer, “Ask the Oil Boys! Ask the Oil Oligarchs! Who owns the government?”

“Well,” said Sara, “we don’t want to get into politics just now.”

She let the people of Henningsvær think for a moment about their own government, and future plans for oil drilling.

“Now, I told you when I started that there were two reasons for falling in love with wind turbines. The first is that I fell in love with something tall and handsome and graceful and quiet, earning a steady income, and absolutely dependable well into the future. How many of you ladies have found *that*?”

She smiled at the laughter in the room.

“The second reason is that wind turbines are part of a Renaissance. Rashida first spoke about this idea when we visited Danish Wind. I was fourteen at the time, as I have told you, and I had never thought for even half a minute about a renaissance. I hardly new what the word meant.

“When we got back home to Norway, I looked up ‘renaissance’ in my mother’s old paper

dictionary. Then I looked it up in my father's old paper encyclopedia." She glanced at her mother and father; the three of them had looked up the word together. "Then I Googled 'renaissance'. I read the article and clicked on a few links.

"I learned that the Renaissance which began in Italy around the year 1500 was the work of a small number of people. Leonardo da Vinci. Michelangelo. Some writers, some architects. The new way of thinking gradually moved north in Europe, where again a small number of people designed new churches, developed a new way of making books, and even organized a new religion. The Renaissance of that time was a great thing, but the key movers were a limited number of people in a limited number of European countries.

She paused, then she explained to her audience, "The Renaissance which Rashida told us about is a different kind of Renaissance.

"It is different because the key movers are a growing number of people from countries around the world. They are thousands of engineers who have become Leonardo da Vinci's on their laptops. They are economists who think in terms of decades and centuries, and not quarterly bottom lines. They are lawyers who are designing international legal networks that facilitate the building of international grid networks. They are people—yes, you could say this—who are inventing an entirely new way for people to live on this Earth. They do not cling to the old, but reach for the new. Their shareholders are the children who will be born in the year 2100.

"I want to be part of this Renaissance. I want my children to be part of this Renaissance. I want my grandchildren to be part of this Renaissance. Anything less than a full century of effort . . . will result in our failure as humans on this Earth."

The room was silent. They were listening.

"How do we make such a Renaissance happen? By doing what we just did, here at Henningsvær School. I can truly say that I have learned more during the past few months—from the Danish Wind trip to our conference today—than I did during all the previous years in school. Certainly, I learned to do an amazing amount of research, until I found answers to my own questions. I learned to *ask* those questions. I didn't just sit at my desk taking notes for the next quiz, the next exam. I was asking real questions, and doing my best to find the real answers. What I was learning had a *purpose*. A purpose called a clean, healthy world. A purpose called prosperity for the people of the world. A purpose called jobs. A purpose called peace.

"Before I joined this Renaissance, I was just a bored kid. A little bit frustrated, a little bit angry, without knowing why. I am sure—I am *profoundly* sure—that there are a lot of kids in the world who are bored, frustrated and angry. They don't know why. They have always breathed dirty air. They have always been bored in school. They have always known that the good jobs were for somebody else. Some of them have lived for years in a war zone. Rarely, if ever, did they dream of working with millions of other kids, together . . . to build a better world.

"Now they can. If . . . they *demand* that their schools teach them what they need to learn, about clean energy in the twenty-first century. Focus on that one goal—clean energy, clean air, clean water—for every kid in every country in the world, and everything else will follow. It will take a generation or two for the wars to finally end. It will take a generation or two for the last idiot to stop drilling for oil. But I believe . . . that if we transform our schools by giving them a real *purpose*, we can make this Renaissance happen."

She felt, in that moment, vibrant with happiness. Never before in her life had she felt that what she was saying, what she was doing, was so *right*.

"Today I am a kid, fifteen years old. When I am an old lady with white hair, I want to see that

better world, and I want to know that I helped to build it. I want to know that *we all* helped to build it.”

She smiled, jubilant.

“That is why I love wind turbines.”

Chapter Fifty-Two

Hauk, a fellow ninth grader, said to Sara as she sat beside him, “Great job.”

She looked at him with a smile of triumph. “Thanks.”

He wanted to say something more—something more to this girl whom, until a few weeks ago, he had rarely noticed—but he now heard Johan Erik inviting “Hauk, from the Industrious Ninth Grade” up to the podium.

“My turn,” he whispered to her.

“Once you get going, it’s not so bad.”

Today was a lesson in many things, and one of them was a lesson in courage.

Hauk shook Johan Erik’s hand, then he stood alone at the podium, until he remembered—he looked out the windows along the back of the room at the glittering sunshine on the sea—that the sun was with him. The sun was with him.

He knew the first line. Maybe if he said it, the rest would follow.

“If we don’t do anything, then the sea will rise higher than it has been since Moses walked the Earth.”

All right.

“If we don’t do anything, islands in the South Pacific will disappear. Much of Bangladesh will disappear. And our village of Henningsvær . . . will disappear. Even if the water rises only half way up the wharf, the first storm surge will toss the waves right into our living rooms.

“There will be a loss of property. The people of Henningsvær, like the people of the Maldivian Islands in the Indian Ocean, may have to move elsewhere. The islanders will have to move to the mainland. Maybe the government will help with a relocation subsidy.”

He paused, to let his audience think about the unthinkable: abandoning their village of Henningsvær.

“But there will also be a loss of culture. And for me, that’s the hard part. When a kid from Henningsvær looks at the old black-and-white photographs of his grandparents, and great-grandparents, on the walls of his home, he is looking at pictures of heroes and heroines in a storybook. People write novels about the Lofoten fishermen. Artists come from all over Norway to paint our mountains and our sea and our boats and our people. Photographers come from all over the world to capture in their pictures some of the magic that they find here.

“Are we going to lose that culture because we’re too stupid to stop burning oil? Are we going to move to the mainland and live among strangers who speak a different dialect, while we wonder what the weather is out where our village lies two meters under water?

“Are we going to stop working on the family fishing boat . . . and instead spend our days mowing the lawn?

“Are we going to trade our sea eagles for sparrows at a bird feeder?”

He could hear uneasy murmurs in the audience. He had touched a nerve.

“As Johan Erik says, ‘That’s the bad news. But is there any good news?’

“We had a wonderful lunch today, a Norwegian seafood soup with Syrian bread and pastries. The sun shone down on the picnic tables along the wharf. The morning had been cool, but I noticed that people were taking off their jackets and sweaters in the warm sun. The sun. Let’s talk about the sun.

“You know, the Earth orbits the sun at exactly the right distance. If we were a bit closer, the seas would boil and evaporate. If we were a bit further away, the seas would be a chunk of ice covering 70%

of the surface of the Earth. But we are spinning around the sun *exactly* where we ought to be . . . for life to flourish on this planet.

“We are blessed with perfection. And yet we turn our backs on that powerful and generous sun, preferring to power our world with black ooze which we pump up from the crust of the Earth. Instead of saying ‘Thank you’ to the sun, and ‘What else might we do together?’, we prefer, like ungrateful brats, to busy ourselves with a commodity which will earn us money.

“The sun has been waiting for a long, long time to help us to power the world. Keep in mind, as you look at Sara’s majestic wind turbines, that the wind which makes those turbine blades spin . . . was engendered by the sun. Was begotten, was procreated, was caused to exist . . . by the sun.

“The sun would very much like to add to the perfection of our existence on this planet. If we would only let him.

“No one has yet mentioned today two other kinds of turbines: tidal turbines, and wave turbines. Tidal turbines operate underwater, where the tide pours in and the tide pours out. And what draws the tide? The moon. As Earth has a perfect orbit around the sun, so the moon has a perfect orbit around the Earth.

“The moon has been waiting for a long, long time to help us to power the world. The moon would very much like to add to the perfection of our existence on this planet, if we would only let her.

“Wave turbines operate on the surface of the sea, where the waves drive compressors, which in turn drive turbines, which in turn produce electricity. As we already know, waves are engendered by the wind, and the wind is engendered by the sun. So much perfection are we given, all in a gift that keeps on giving day and night, and never asks for as much as one penny.

“Our job is to accept this unrelenting gift. If possible, with a measure of gratitude.”

He nodded to Ulf, who put up on the screen a picture of a solar collector: an enormous cylindrical tower standing in a desert, surrounded by thousands of mirrors.

“If you read *Rechargenews.com*, the online journal that tells us every day about clean energy around the world, you already know about Desertec, the solar project in Morocco that will one day transform Africa. The sun shines on that vast circular array of mirrors; the mirrors shine their intense light on a target near the top of the tower; that light heats an enormous amount of salt in the tower, turning it into *molten* salt. Even when the sun sets in the evening, that molten salt is hot enough to turn water into steam . . . all through the night. The steam of course turns turbines, which produce electricity for African villages which may never before have had a light bulb in their mud huts. Now those villages can have electricity in the schools, powering lights and fans and computers. Now those villages can have electricity in the medical clinics, powering an x-ray machine, and dental equipment, and a small refrigerator where, for the first time, medicine such as vaccines can be kept cold.

“Solar collectors in the North African deserts will eventually produce enough electricity that their power can be sent by underwater cables across the bottom of the Mediterranean Sea to southern Europe. Such an underwater grid has already been designed; it awaits the political will to turn those designs into reality.

“And the political will awaits . . . us.

“When we *insist* on an energy plan—an international energy plan—which addresses the needs of both humanity and planet Earth for the next century, investors—those cautious people who want to see an intelligent, serious plan—will finally invest in the sun. And in the wind.

“But as long as we have no such plan—as long as we ride the roller coaster of oil prices and suffer the battering storms of war after war—investors will not invest.

“When do we, when do we, decide to team up with the sun and the wind? When do we decide to

write a global energy plan for the entire twenty-first century? When do we finally learn that the only ‘bottom line’ that has any importance is the bottom line of the year 2100?”

He looked at his mother and father in the second row, watching him intently.

He looked at Sara in the front row, watching him intently.

Was anyone listening in Oslo?

“If you fly on a plane to a city in Germany, you can look out your window as the plane approaches the airport and see thousands of solar panels on the rooftops of homes and businesses. Those solar panels have provided thousands of jobs. And the price of those solar panels has fallen, I am very glad to inform you, by 80% since the year 2008. The more we build, the cheaper they get . . . whereas the price of oil rises steadily upward.

“But if you fly on a plane into Miami, a city that bakes in the sun, you can look down from your window and see not one solar panel. You will see a multitude of swimming pools. You will see golf courses. You will see a lot of traffic. But you will not see those little silver squares on top of somebody’s roof.

“Why? Because we dawdle. We dither. We hope for the best.

“But my generation, as you have heard, is not going to dawdle and dither any longer. We are not going to hope for the best, we are going to *build* the best. We are going to team up with the sun and the wind and the waves and the tides. We are going to educate ourselves so that we can write that global energy plan for the entire twenty-first century.

“We are going to stop doing nothing. As Johan Erik has been trying to tell us for quite some time now,” he shot a grin at Mister Intense, “‘if the older folks were ever going to do something about climate change and clean energy, they would have done it by now.’ We have been taking baby steps. Yes, we have some wind farms out in the sea, and we have convened any number of windy conferences. But the time for long bold strides has arrived.

“Sara wants to be part of the Renaissance. Hauk—that’s me—wants to wear the big boots that take those long bold strides.

“We’ll bet on the wind. We’ll bet on the sun. And then, you just watch, the investors of the world will bet on *us*.”

One more thing. One more thing that he wanted to tell them.

“Part of the Henningsvær culture—the culture that we treasure so much—is our ability to work with the wind, with the weather, with the sea. There’s an old saying, that people on the mainland have a bit of salt in their blood, whereas the folks of Henningsvær have a bit of blood in their salt. We need to build upon that tradition. Let us cast our nets not only for the cod, but for the wind itself. Let us cast our nets for the summer sun that shines both day and night. Let us continue to put photographs of heroes and heroines on the walls of our homes, pictures of people who have the vision and the courage and the fortitude to rise to the challenges of the twenty-first century.

“Good people of Henningsvær, we hope to hang our cod on the racks, as our sturdy ancestors did a thousand years ago. But that is not enough. We must also reach out to the peoples of the world, helping them to build a *better* world, so that future generations will still be here a thousand years from now.”

The applause was reassuring. The walk from the podium back to his seat brought a wonderful sense of relief.

But best of all was when he sat down and Sara grabbed his arm and told him, “You were *great*.”

He told her, “*You* were great.”

And that, he hoped, was the beginning of a conversation that would last for the next fifty years, at

least.

Chapter Fifty-Three

Amalia had been a teenager for three days. Actually, two and a half, since her birthday had been on Thursday, May 9, and now it was only the early afternoon of May 11. On Wednesday she had been twelve, then on Thursday she became thirteen, with all the wild and wonderful teenage years ahead of her.

But she had already decided that when she turned sixteen, she was not going to learn how to drive a car if it ran on gasoline. The only car she was going to drive in her lifetime was an electric car. She had already made that commitment to herself. If every teenager in the world decided that the only car she would drive, or even ride in, was an electric car, her generation would put the Oil Boys right out of business. Her generation would launch one of the most exciting epochs in all of human history.

Amalia wanted to be a pioneer. She wanted to be an ‘entrepreneur’, a French word that she couldn’t even pronounce two months ago. She wanted to design the first generation of high altitude wind turbines which flew like kites in the jet stream, at least ten kilometers above the surface of the Earth. And she wanted to use the electricity from those turbines to power the car that took her to work every morning.

So she was ready when Johan Erik invited her to the podium. She wanted to share her dream.

Amalia shook Johan Erik’s hand, beamed a smile at her mother and father, then she said into the microphones, “The way we travel today is a slow method of suicide. Every time we get into the car to drive to work, or to school, we sprinkle a little arsenic into our coffee.” She hated coffee, but the adults would understand. “A little poison each day hardly seems to matter.

“We poison our atmosphere with carbon dioxide, and with the long-chain hydrocarbon molecules which are created by the combustion of gasoline. CO₂ pollutes the world, incrementally, while the complex hydrocarbon molecules pollute our lungs. Incrementally. The world gets warmer, and little kids develop asthma.

“So what is the real cost of a liter of gasoline? First, there is the price at the pump. Add to that the cost of damage from monster hurricanes, the cost of damage from floods, the cost of crop loss from drought. Add to that the medical expenses of millions of people, many of them children, who have trouble breathing. Add to that the cost of coastal water tables turning salty as the sea level rises. Add to that the cost of seven billion people trying to survive on a planet increasingly polluted by methane from the thawing tundra. Add to that the cost of waiting for three hundred years while the entire planetary ring of tundra thaws, incrementally; while the methane breaks down in the atmosphere, incrementally; while the atmosphere begins to cool, incrementally; while the oceans begin to cool, much more incrementally; and while rain, beautiful sweet rain, begins to fall on a few scattered fields of wheat.”

She paused, as Johan Erik had taught them to pause.

“Did you tally all of that up?”

“That is the true cost of driving our cars to the shopping center in Svolvær.

“Add to that the cost of millions of trucks burning diesel, trucks which produce not just CO₂ and long-chain hydrocarbons, but small particulates as well. Tiny bits of burnt oil that lodge in our lungs.

“Add to that the cost of thousands of ships weaving across the seas every day.

“Add to that the cost of thousands of airplanes weaving across the skies every day.

“Add to that the stupidest cost of all: the cost of burning coal in thousands of power plants around the world.

“Oil is barbaric, but coal is Neanderthal.

“Now what does our tally come to? What is the final cost of our unrelenting efforts to manufacture One Dead Earth?”

She had heard the anger in the voices of the students today as they spoke from this podium. Now there was anger in her voice as well.

“Just a little arsenic in your coffee every morning, mixed in with a spoonful of artificial sweetener.”

When she thumped her fist on the podium—really *thumped* it—at least half the audience jumped in their seats.

“Well, it doesn’t have to be that way.

“Sara brought you some good news about wind turbines. Wind turbines on land, wind turbines in the sea. But what about wind turbines up in the sky?” She nodded to Ulf, who projected onto the screen an illustration of a giant box kite, with multiple small wind turbines attached to its open frame, floating above a town and farm land far below. “A whole new industry is now in the experimental stages: the industry of high elevation wind turbines. You see, the higher we go, the stronger the wind. And the steadier the wind.

“Pioneers in countries around the world are now experimenting with different prototypes.” She nodded to Ulf, who showed picture after picture of ring-shaped kites, glider-shaped kites, complex box kites, all of them supporting an array of wind turbines. “One of the keys to the progress which these pioneers are making . . . is that they work as an international team. In the old days, my country competed with your country. My corporation competed with your corporation. Today, Japan teams up with Ireland. Germany and South Korea team up with Canada. Scotland teams up with California. And China teams up with everybody. The idea is to make progress *together*, not to bankrupt the other guy. And certainly not to parade our gunboats in somebody else’s waters.”

A long pause, then she nodded to Ulf, who projected her favorite illustration.

“Here you see the ultimate, almost unreachable goal: high altitude wind turbines, carried aloft on a kite, spinning in the immensely powerful winds of a jet stream. Yes, the jet streams flow ten kilometers above us, and yes, they meander constantly, and yes, they are so powerful, with winds of at least ninety kilometers per hour, that they could rip apart almost any structure we put up there.

“*But*, pioneers and entrepreneurs around the world are already designing high elevation wind turbines that would tap the immense potential of the jet streams. So that one day, we can put a lump of coal and a liter of black oil into a museum, along with a few stuffed Oil Boys and a few stuffed Oil Oligarchs in a glass case.

“We don’t need to go to the moon. We don’t need to go to Mars. The most exciting planet is our own beautiful planet Earth, home to explorers, home to pioneers, home to entrepreneurs, home to people who are going to discover new ways to harness the sun and the wind. Home to people who are going to discover, at the same time, the *best* that is within themselves.”

She looked at her friends in the front row, kids who were no longer somebody in the seventh grade or the ninth grade, but who had become colleagues on the same team.

“I want the members of my generation to know, that when I am old enough to learn how to drive a car, the only car I will drive will be an electric car. Norway has tried and tried again to produce an electric car called the Think. The problem is not in the technology: batteries have greatly improved, charging stations have spread, and seating capacity has increased. The problem is that a limited number of electric cars cost more per car than a large number of electric cars. And thus, they still cost much more than cars which run on gasoline.

“But if we add up the *true* cost of gasoline . . . suddenly the electric car becomes an inexpensive way to keep the tundra from melting. To keep the seas from rising. To keep kids out of the hospital.

“So the only car that I will ever drive, will be an electric car.”

She swept her hand, gesturing to her teammates in the front row.

“If every teenager in the world decided that the only car she or he would drive, or even ride in, was an electric car, our generation would put Big Oil out of business within ten years.”

She saw the wary smiles, the frowns, the baffled looks. Her colleagues in the front row had not been expecting this.

“And . . . we would launch one of the most exciting epochs in all of human history. *I want to be a pioneer. I want to be an entrepreneur. I want to help design those wind turbines that spin in the jet stream, so that they can power, through a network of charging stations, enough electric cars to bring the cost down. To bring the cost down so that every family in Norway and Poland and India and Ethiopia and Bangladesh can afford one as the family car.*

“My challenge to you is very simple. If the teenagers of the world will make the commitment, ‘My Wheels are Green’, then the world will be ours in the twenty-first century. If we do not make that commitment, then we inherit the Old Way of Thinking . . . and all of the catastrophes which that old way of thinking will surely bring.

“We can unite, as the first global generation in human history, to *change* the course of human history, and thus to build a new and better world. The first step is one that we would all share together: We will drive electric, or not at all.”

She saw that Sigurd and Wasim were quietly clapping.

“We will design new schools, schools that truly prepare us to become pioneers in the twenty-first century.

“We will say ‘Good morning’ each day to the sun, and to the wind.

“We will become the Greatest Generation, not because we fought a war, but because we built a just and lasting peace.

“That is my challenge to the teenagers of the world.”

She stepped back from the podium. Hear that, Lofoten. Hear that, Oslo. Hear that, Berlin. Hear that, St. Petersburg. Hear that, Addis Ababa. Hear that, Shanghai. Hear that, San Francisco. Hear that, Al Jazeera.

Chapter Fifty-Four

Johan Erik Jacobsen, born in Henningsvær (actually born at the hospital in Gravdal, into the hands of Doctor Lars Jacobsen); an infant, a child, and a boy who loved to be on his grandfather's boat so much that his grandfather named him "Barnacle"; a teenager most comfortable when he was alone on his sanctuary island, reading and thinking inside *Rorbu 16*, or listening to the waves and thinking while he stood out on the porch and watched the sea, watched the sky, watched the ever-changing light on the mountains; and now the elected host of a conference that as recently as Christmas was unthinkable in the minds of his classmates, and unprecedented in the history of Henningsvær School . . . this Johan Erik Jacobsen, a young man of sixteen, looked at his classmates in the front row, looked at the audience behind them—all of whom had made this day possible—and told them,

"This morning, Saturday, May 11, 2013, *The New York Times* ran an article on the front page, under the headline '**Heat-Trapping Gas Passes Milestone, Raising Fears**'. *The New York Times*. Front page. Today. I know about it because the article was published online early this morning."

He glanced at a printout of the article on the podium. "This excellent article by Justin Gillis states that the amount of carbon dioxide in our atmosphere has reached four hundred parts per million, a level unprecedented during the past three million years.

"Did you hear that? What have we been talking about here in this room all morning and half the afternoon? Carbon dioxide. Students twelve years old have been telling you about carbon dioxide. And now we see confirmation of *exactly* what we have been talking about, on the front page of *The New York Times*."

He paused, then his booming voice filled the room, "People of Henningsvær, this is *real*."

The room was absolutely silent, save for the sound of the waves washing against the pilings of the wharf.

"And yet, we are still driving our cars. We are still flying south on a jet to a sunny vacation. We leave the lights on.

"And our collective behavior is just as poor: our governments spend billions of dollars every year to subsidize fossil fuels and wars; they spend a much smaller percentage to subsidize clean energy. How much longer shall this absurd imbalance continue?"

He paused, then he called out, "Does the world need Amalia? Does the world need Hauk? Does the world need Sara?"

He smiled with pride at his three classmates: three passionate pioneers.

He glanced again at the article. "It says here that although China now produces more carbon dioxide than any other country, Americans have been burning coal and oil for a much longer time. America has thus added more carbon dioxide pollution to the Earth's atmosphere than any other nation."

He swept his hand dramatically, encompassing his entire audience.

"We are all sailing on a ship on a northern sea at night. Ahead of us in the foggy darkness is a huge ice berg, which has broken off from the melting polar ice cap. The ice cap is so rotten along the edges that giant chunks break off. And our ship is steaming right straight toward that monster ice berg.

"Letters are carved into the ice. Do you know what those letters say?"

He scanned the audience. "Do you know what those letters say?"

The faces stared at him.

"Those letters carved in the ice state very clearly, 'Made in USA.'"

Sigurd gave him a thumbs-up.

"Here are some statistics for you. Scientists from many countries have bored down into the thick

ice capping Antarctica. Their ice cores contain a remarkably detailed record that reaches back *eight hundred thousand years*. Tiny air bubbles contain whatever gasses were in the atmosphere at a specific time. For the past 800,000 years, the level of CO₂ ranged between 180 and 280 parts per million. Now we are up to 400. The jump from 280 to 400 is a jump of 42.857%. We'll call it 43%. Now tell me, what if the level of CO₂ in your blood jumped by 43%? What if your cholesterol level jumped by 43%? What if your income tax jumped by 43%? Would it make a difference?

"Let me add that 41% of that 43% in the rise of CO₂ took place since the Industrial Revolution. Took place in the last 200 years, out of 800,000 years."

He paused, then he pointed at himself.

"It is *our* coal, powering steam engines, and *our* oil, powering millions of cars and planes and ships and—can you believe it—jet skis and snowmobiles, that have pumped all that filth into the atmosphere.

"But we aren't finished yet. 800,000 years of bubbles in the ice tell us that when the level of CO₂ rises in the atmosphere, the temperature goes up. When the temperature goes up, more ice melts and the sea level goes up. 400 parts per million of CO₂ in the atmosphere could lead to a rise in sea level of 18 to 24 meters. At that point, Henningsvær is *gone*."

He listened with satisfaction to the worried murmur in the audience.

"Since the late 1950s, research on the level of CO₂ in the atmosphere has been conducted at a research station atop the Mauna Loa volcano (an extinct volcano) in Hawaii. Charles David Keeling began the first measurements, which showed that despite seasonal fluctuations, the overall level of CO₂ in the planet's atmosphere was steadily rising. This upward trend has been called the Keeling Curve. The evidence is crystal clear.

"And yet a number of countries, including the biggest polluters, America and China, have refused to adopt international limits on carbon dioxide pollution."

He repeated with emphasis, "Have *refused*. Why? Because their people have allowed them to refuse.

"Somehow the blame keeps coming back, again and again, to *us*."

He paused, tapping his chest, then he almost shouted, "To *us*."

Stepping back from the microphones, he took a deep breath, gathering his thoughts.

That was the end of Part One. Now, Part Two.

He stepped back to the podium.

"Let's talk about jobs.

"The cod season lasts from some time in February to some time in April, about two months. After that, my grandfather and the other fishermen must look for different work to do. He is a carpenter, and so he manages by putting new windows into an old house, or by repairing somebody's dock, until the cold weather and short days of October bring outdoor carpentry almost to a halt.

"In addition to the fishing industry, the village of Henningsvær depends on income from tourists, especially during the summer. But since the autumn of 2008—I was twelve years old and not paying much attention—the world economy has been in a prolonged recession. Tourists from Germany and France and Japan can no longer afford the trip to northern Norway. Part of the reason my parents are so stressed at the Rorbuer is because bookings have dwindled, with no economic recovery in sight.

"As a kid of sixteen, with no experience whatever in international economic affairs, I still wonder: What are the adults waiting for?

"Are they waiting for the politicians to write a new tax code that will bring the global economy

back to life?

“Are they waiting for the bankers to find the right interest rate?”

“Are they waiting for America, which has been fighting wars for as long as I can remember, to rescue Europe?”

“Are they waiting for the oil to run out, before they try something new?”

He scanned the faces of his classmates.

“And my generation, who will soon inherit economic stagnation, a warming planet, and a dozen wars: What are we waiting for?”

“Because the older folks, if they were going to do something, would have done it by now.”

“The older folks—most of them anyway—are simply going to dump the entire mess right into our laps.”

He did not want to insult anyone here today, but he *did* want to make very clear that his generation had been cheated. Big time.

“Every day, usually in the evening, I read an online newspaper about clean energy in countries around the world. Uncle Lars bought a subscription to *Recharge News* for me as a birthday gift a couple of years ago. Every year, in June, he renews the subscription. I am profoundly grateful.”

He gave Uncle Lars a smile of gratitude.

“I spend an hour, at least, reading the good news. I’m tired of the bad news. I want to read the *good* news.”

“Little Ireland is weathering the recession by building wind turbines and installing them both on land and out in the sea. As you have already heard, Germany has created thousands of jobs by supporting, with economic incentives, a program that puts solar panels on the rooftops of homes and businesses all across the country. Solar panels in India bring electricity to remote villages, enabling people to recharge their telephones, and to bring the digital age into their schools.

“Countries are linking with other countries by laying underwater cables, so that they can share their energy. Universities are linking with universities, so that they can share their programs and their students. Workers keep going to school, so that their skills develop as the clean energy industry moves into the next generation of wind turbines, the next generation of solar collectors.

“Again and again I read that despite the recession, despite the riots in Greece and the strikes in France, the clean energy industry is growing. European pension funds are now investing in offshore wind turbines, because the fund managers *trust* that the wind is a reliable, low risk investment. The wind blowing across the sea will pay for the retirement of millions of people.

“That is just a small part of the good news.”

“And yet, we are still taking baby steps. I have read, again and again, that there is an enormous amount of money waiting to be invested in clean energy, but that the investors hesitate . . . because—as Amalia has told us—there is no long term strategy. There is a bits-and-pieces European energy plan for the next couple of decades, though one is needed for the entire twenty-first century. America, once the great industrial powerhouse, seems utterly unable to plan for the future. India is educating engineers; China is educating engineers; Brazil is educating engineers. But still, there is no *global plan*, no strategy for the twenty-first century that would enable *every* country to participate in a growing clean energy economy.

“Without that plan, investors do not invest.

“Instead, we burn more oil and fight more wars.”

He looked at Wasim, at Sigurd, at Sara and Hauk and Amalia, and all the others in the front row . . . of whom he was so immensely proud.

“At some point, I deeply hope, my generation is going to realize that we have been given the most exciting challenge in all of human history. We are going to provide an education for every kid. For *every kid*. So that as educated professionals, we can develop an economic plan that makes sense. And then . . . investors will invest. The shareholders will not be the busy little boys with a broker in New York; the shareholders will be the unborn generations waiting to open their eyes in a healthy and prosperous world.”

He paused, then he began the cadence.

“When we set a goal for clean energy production for the year 2020, and 2050, and 2100, then build the wind turbines and tidal turbines and solar panels to meet those goals, we will have jobs.

“When we design wind turbines and solar collectors that power desalinization plants, turning salt water into fresh water, we will avoid the coming water wars. And we will have jobs.

“When we design a modern international grid that will transport energy with great efficiency to countries around the world, and then *build* that grid . . . we will have jobs.

“Where will the money come from? How many wind turbines can we build for the price of one aircraft carrier? How many coal-burning power plants can we replace with solar power plants, for the price of one year of war in Iraq?”

Yes, let them hear the anger in his voice.

“How many wind turbines can we put up in the jet stream . . . for the price of a dozen hidden submarines, each one a quiver of nuclear missiles?”

One long, final pause.

His voice calm but firm, he said, “Maybe my generation will miss the big opportunity. Maybe they will keep exercising their thumbs on all their little buttons.

“But somewhere, while storms batter the coast and droughts parch the land, young people gathering together are going to stop taking baby steps. They are going to take long bold strides. They are going to think long bold thoughts.

“And they are going to have the most important *jobs* that people ever had.”

Chapter Fifty-Five

Rashida heard Johan Erik say, “We will now hear from our final speaker. I have the great pleasure to welcome Rashida to the podium.”

As she stood up from her chair, she turned and looked at her mother, seated between Aunt Louise and Uncle Lars in the second row. Her mother wore a blue *abaya* today; blue, to match her daughter’s *abaya*, rather than a widow’s black.

Then she walked—a young Arab woman, a young Norwegian woman—to the podium. When she shook Johan Erik’s hand, she told him, “Thank you. My mother and Wasim and I, we will never forget this day.”

“You are welcome. My hope is that none of us will ever forget this day.”

She too would begin with some recent news.

“We have heard today about two themes that might at first seem unrelated, but which in reality are closely woven together. In the future, they shall be *tightly* woven together. These are the themes of climate change and war.

“The conflict in my home country of Syria began on March 15, 2011, when people peacefully protested against the torture of a group of children held in prison. In response, government troops fired live bullets at the demonstrators.

“Two years later, a human rights organization reported that March, 2013 had been the deadliest month of the war so far: six thousand and five people had been killed in Syria in just that one month.

“In my home town of Aleppo, a survey estimated that thirteen thousand five hundred people had been killed, and twenty-three thousand had been injured, since the war began. One thousand five hundred of the dead . . . were children under the age of five.

“Government snipers target women and children out on the streets searching for food. Government artillery targets people waiting in bread lines. Government helicopters target apartment buildings, especially at night when they are filled with sleeping people.

“We are very aware in Syria that much the same happened in Yugoslavia: the butchery continued for over two and a half years, while countries around the world watched . . . and did next to nothing. Finally, in July of 1995, Serbian soldiers surrounded a town called Srebrenica, a town which was supposed to be a ‘safe haven’ protected by United Nations troops. The Serbians massacred over seven thousand Bosnian civilians, most of them men and boys. Only then, *only then*, did NATO finally respond. NATO planes bombed Serbian targets in August, and within less than *two weeks*, the war was over. Milosevic suddenly wanted peace.

“At that point in the Yugoslavian war, nearly a hundred thousand civilians had been killed. Today in Syria, more than seventy thousand people have lost their lives. Do we have to wait for another thirty thousand, before somebody finally stops the butchery? Do we have to wait for another Srebrenica?”

The people of Henningsvær, whom she respected so much, were listening to her. Perhaps the rest of the world was not, but the people of Henningsvær stared at her with grim faces and listened.

“March, 2013, was the deadliest month of the war in Syria. In the month of April, on Thursday the 25th, the Syrian government attacked civilians with chemical bombs. If you have watched the videos on Al Jazeera, you have seen people—men and women and children like yourselves—frothing at the mouth because their lungs had been destroyed by sarin gas. One of these attacks took place in the town of Khan al-Assal, near my city of Aleppo.

“And of course, we have no idea when such attacks will happen again . . . while the rest of the world

tries to pretend that they do not yet have any real proof.”

She looked at her mother, whom she had found one late afternoon sitting on the rocks beside the sea. Her mother had wanted to join Omar.

But today, her mother wanted her daughter to speak.

“When I was in the refugee camp last summer, I awoke one night feeling the worst loneliness I had ever known. I was in a dusty tent that flapped and rumbled in the night wind. I could hear voices outside in the street, the voices of desperate people, frantic people, for refugees often arrived in our camp in the middle of the night. Sitting up on my mattress, I felt a loneliness greater than any love I had ever felt, greater than any joy I had ever felt. Greater, even, than my rage at this horrid war.

“Was I lonely because I missed my brother and father? Yes.

“Was I lonely because I missed my homeland, my modern city, my normal way of life? Yes.

“Was I lonely because I missed my friends at school . . . which, in years past, had begun in the month of September, less than a week away? Yes.

“But it was far more than that. I felt as if all the blackness of the night sky, without the stars, had poured into my heart.

“My brother Wasim, and my mother Zainab, lay on their mattresses on the ground, breathing softly. Only I was awake.

“The tent was dark, save for the faint light of the moon shining through the canvas. We did not yet have a light bulb powered by wind turbines. We had only a silent, distant moon.

“I was so lonely that I wanted to wail like a little child. I wanted to wake up my mother and sob in her arms. But I let her sleep.

“The loneliness was not for something that I knew and missed. It was for something . . . beyond the war, beyond this time of fear and worry and rage. It was *for the life that I had not yet lived*, and might never live, because the war could bring death at any moment.

“The government planes—the Russian MiGs that raced across the dusty desert sky—they had bombed Aleppo and Idleb and Azaz . . . might they not bomb a refugee camp as well?

“We could often hear artillery to the south, across the border in Syria. What was a bit of canvas against an artillery shell?

“Could a girl feel such loneliness for the life she had not yet lived?

“I stood at the edge of my own grave, peering down into the blackness, while the ground slowly crumbled beneath my feet.”

She paused, to let that horrid black feeling slowly diminish . . . before she could speak again.

“Now I know, after almost five months in Henningsvær, why I was so desperately lonely that night. I know what it was that I so much missed.

“Because here in Henningsvær, I have begun to live the life which that terrified girl had not yet lived. I have developed friendships with people who are completely unlike the people I grew up with. I have begun to make my way toward my dream of becoming a doctor. And I have begun to fulfill another dream, another purpose in my life: the dream of somehow bringing peace to this world.

“So I can say, that though I will never see my father or my brother Ahmed again, and though the war continues in Syria while the world pays little attention, my own life has begun. And for that, I would like to say to the good people of Henningsvær, I am profoundly grateful.”

A stir went through the audience.

She added, “On behalf of my mother, and brother Wasim, I want to say, ‘From deep in our hearts, Thank you.’”

She looked at her mother, at her brother, who had been rescued from the horrors of that war and

brought to the sanctuary of Henningsvær. The three of them would spend their lives reaching out to others who were still trapped.

“Now I have spoken entirely about war. But I began by telling you that I would address *two* themes which are woven together: the themes of war . . . and climate change. Two vast evils, one of which has gripped us for centuries in the past, and one which is about to grip us for centuries in the future.

“How should we confront those two evils? How do we slay not just one dragon, but two?”

Would they listen? Would one half of seven billion people listen? That’s all she needed, just one half of seven billion. Then the other half would simply have to step out of the way.

“We students have called our conference ‘Architects of the Future’. I would like to say something about these young architects. Because there are a lot of them. Waiting for their lives to begin.

“If you were to travel around my country—when the war is over—you would find the ruins of many civilizations. The Euphrates River flows through Syria, bringing water to the desert. People settled along the banks of this river long before anyone kept a written historical record. They learned to dig long ditches, diverting water from the river so that it flowed through channels that brought life to the land. They planted their crops, they harvested the fruit and the grain, and they flourished.

“Until somebody’s army came along and conquered them. Slaughtered some of them and forced the rest of them into slavery. Claimed the land and farmed it for themselves, or abandoned it to wither in the desert sun.

“My country is filled with the ruins of a long sequence of civilizations. Now, with the civil war, we are adding to those ruins. It seems that we have not yet found the civilization which can prevail against our barbaric urge to fight with each other.

“So, I would like to suggest the obvious. Read a history book, and you will read about men. Read a sacred text—the Koran or the Bible—and you will read about men. Men who are often in contention with each other. And war begat war. And war begat war. And war begat war.

“Perhaps it is time to try something new. Perhaps it is time to tap the talent of those who see things differently, in part because they are the ones who bring life into the world.

“Men have muscles, which is good for today.

“But women can bring life into the world, which is good for a thousand tomorrows.

“Let women become the architects of the future, and we will stop creating ruins. Let women build a world in which their children can flourish, and civilization will flourish as well.

“How do we begin? With something very simple. With schools, filled with just as many girls as boys. Equality begins in the schools. Democracy begins in the schools. Civilization begins in the schools. Irrigate the land with water from the river, and the harvest shall be abundant. Teach the children, *all* of them, equally, and the harvest shall be abundant.”

She paused. There was one thing more that she wanted to say. One thing more.

“Never again should a girl wake up in the middle of the night, lonely for the life that she will never live. If life is something sacred, if life is a gift from the hands of the divine, then let us honor the Creator by enabling life to become all that it could be.

“Anything less . . . is a great sin.”

She looked at the faces in the audience. Could a seed planted in such a tiny village ever bring forth fruit?

She bowed slightly.

“*Ma Salaama. Go in peace.*”

As she walked back to her chair, she felt very strongly that her father and her brother were watching her.

Chapter Fifty-Six

Never mind that they had spent the day talking about catastrophes and war in the near future; when the conference ended, everyone in the room felt an enormous sense of triumph. They had done it. They had tackled the great challenges by learning about them, by speaking about them, by refusing to ignore them any longer. They would all take home with them the chant, "It's happening now!"

The students were proud of what they had done. This was no school musical, in which everyone sang the familiar songs. This was no football game or volleyball tournament, with everyone cheering the same old cheers. The conference had been something entirely new, the work of pioneers who felt, for the first time, that the twenty-first century was *their* century.

The parents were immensely proud of what their . . . they could no longer use the word 'children' . . . nor the word 'kids' . . . of what their young people had done. The parents were proud as well of what the Henningsvær School had enabled the students to do. No longer was some bureaucrat in Oslo dictating the lesson plan; for the past several months, the teacher at the front of the room had been Mother Nature herself.

Let the wind and the sun come into the classroom: Yes. Let the dangers of coal and oil come into the classroom: Yes. Let discussions about an international grid, an international network of schools and universities, an international network of young people working together . . . let *these* discussions come into the classroom: Yes.

The conference room was filled with bursts of light from camera flashes as people took pictures of the twelve speakers—Vibeke stood beside Rashida—first in a row, and then—to get them all together in one proper picture—as a group with the boys seated in front and the girls standing behind them.

No one wanted the conference to be over. Because this day, they all knew, was a Moment in History. Before, the people of Henningsvær had sent their fresh, frozen, and dried cod out to the world. Today they had sent out to the world the voices of—as they hoped—the first global generation in human history.

* * *

My greatest happiness that day was that my mother was so jubilantly happy. Her Wasim and her Rashida had spoken, about the wars of the past and their dreams for the future. Uncle Lars took pictures of the three of us, Wasim—now the man of the family—in the middle with his arms around his mother and sister. We had come from that hot dusty tent rumbling in the night wind; we had come from the thundering of artillery shells across the border to the south; we had come from the food lines and water lines and sanitation lines; we had come from the grief and the despair and the rage and the aching loneliness. We had come to a place where we could face the ugly demon of war . . . and fight back.

We took a picture of Uncle Lars standing between my mother and Aunt Louise. We took a picture of Wasim and Sigurd standing together, friends forever. We took a picture of Johan Erik, with—yes, it is true—tears of happiness running down his cheeks as he stood between his mother and his father.

We took a picture of my mother standing with Grete, her new friend and future teacher next autumn in the midwifery school.

Then Ragnar, Grete's husband, took a picture of our family, all eleven of us.

Olav and Laila stood in the center of the back row, patriarch and matriarch.

My mother stood beside Olav, then to her right stood Lars and Louise. Sven and Berit stood beside Laila, to her left, completing the middle generation.

The four speakers—Sigurd, Wasim, Rashida, and Johan Erik—sat in chairs in the front row. I knew that Johan Erik wanted to hold my hand, but we behaved ourselves.

Then at Sigurd's suggestion, the four speakers remained in their chairs, the middle generation stepped aside, and Olav and Laila stood with proud dignity behind the four of us, Laila with her hands on Wasim's shoulders, and Olav with his hands on my shoulders. His fingers gave me a gentle squeeze.

* * *

I spoke with my father and mother, who readily agreed that we should invite Ragnar and Grete to join us at Rorbu 16 on the little island for our family dinner and celebration. Zainab and Grete seemed always to have something more to discuss, about Zainab's future courses; about nutrition for the mother before the birth, about nutrition for the child after the birth; about the important role of the father during the pregnancy, the birth, and the weeks and months afterwards.

Grete, more than anyone else, was enabling Zainab to move beyond the war . . . toward a genuine purpose in her life.

Grete and Ragnar gladly accepted our invitation.

As I ferried people and picnic baskets in the little boat out to the island, we emerged from the shaded wharf into the sharp light of the late afternoon sun, which had swung around to the southwest. Sigurd got a fire going in the stove while I went back for the next load of passengers, for though the day had been warm, evenings in May could be cool.

During the dinner, a Syrian-Norwegian banquet, Ragnar told the company assembled around the long table that when *he* was a boy, growing up on Sauøya, he and his brothers and sisters had to row a boat to school every day. The school was on a nearby island, Engøya, not far away unless they were rowing against a blizzard in January. Or a driving rain in April. Sometimes the first thing they did when they finally tied up the boat at the Engøya wharf and walked up the stony path to the school was stand by the stove for half an hour while their clothes dried.

Ragnar raised his coffee cup. "A toast!"

We all raised our cups. The cabin was warm, the windows were open; we could hear the sea outside.

"History in Henningsvær seems as if it happened only yesterday. May the future bring as much progress, and may it come as quickly."

We clinked our blue-and-white cups and drank our Turkish coffee, confident that such progress was absolutely possible.

After dinner, everyone gathered outside on the porch in the golden evening sunlight (the sun would not set at our latitude until 22:40) to listen to Uncle Lars recite with his rolling baritone voice the verses of our great northern poet, Petter Dass. As vicar at the coastal church of Alstahaug on the mainland from 1689 until his death in 1707, Petter Dass not only ministered to the souls of the fishermen, who loved him, but also wrote vibrant poetry about these sturdy people and the world they lived in. His poetry was never published during his lifetime, for Norway was a colony of Denmark back then and had no printing press of her own. (Authorities in Copenhagen did not believe that some unknown vicar in the wild northern reaches of a backward colony was worthy of publication.) Nevertheless, Petter Dass was not only published but revered today, and thus a reading of his *Nordlands Trompet* (The Trumpet of

Nordland) on a festive springtime evening was entirely fitting.

While Uncle Lars proclaimed with a sweep of his arm,

“It seems that, far out on the edge of the earth
Old nature has found its good way to give birth
To rare and splendid abundance . . .”

and while his audience listened, enthralled (Zainab did not want a translation; she wanted to listen to Lars’ dramatic voice), Rashida and I snuck off for a little time, finally, on our own.

We followed the porch around the eastern (shadowed) side of the cabin, stepped through a gate and then walked—completely hidden from the cluster of people on the opposite side of Rorbu 16—on the bare rocks along the shore of the island, then up a grassy slope—through shrubs just putting out their spring green leaves—to the moss-capped dome.

Partially hidden by bushes, we could see the red back wall of the cabin and small windows trimmed with white. We could see a dozen other low rocky islands scattered in the sea near Henningsvær, including hilly Sauøya to the north. And we could see, best of all, the long ridge of mountains that towered over the sea, their jagged peaks and crevasses and cliffs mottled with lingering white snow on the black rock.

The golden sun, still a bit south of due west, and low enough now to be tinged with red, lit much of the mountain wall, so that the jagged white peaks glowed in the evening sky, radiant golden-red.

To this spot, on this splendid day, I brought my Rashida.

I reached into my pocket.

* * *

When he held out his hand with a gold ring on his palm, a ring shining in the sunlight as if the sun himself had reached out a finger and touched it, I felt, on one level, surprised and delighted.

On a deeper level, I felt the greatest happiness I had ever known.

And on an even deeper level, I began to say a prayer of gratitude, so that even as I (moments later) was speaking to Johan Erik in Norwegian, I was praying in Arabic.

“Rashida,” he said, “my mother gave me this ring, on an evening when I told her about . . . you and me. She left the room to fetch the ring from her bedroom. She told me that the ring had been passed down through several generations of women in the family. My mother wanted me, when the right time came, to give it to you.”

“Johan Erik . . .” I wanted the ring to be from him, not from his mother.

“Rashida, I know that we cannot get married right away. So I am not asking that. But perhaps we could be engaged?”

He looked at me, his face lit by the golden-red sun, his eyes hopeful, hesitant, offering his love. “Rashida, would you accept an engagement ring, which promises that one day, we will be married?”

I stood with the sun behind me. As I reached out my hand, it moved from shadow into sunlight, fingers spread, ring finger ready. “Johan Erik, I would very much like to wear your engagement ring, which promises that one day, we will be married.”

The mountains leaned forward to watch, the sun peered down to watch, the sea held its breath while it watched, as Johan Erik slid the ring over my finger.

It fit perfectly.

And then, of course, we kissed. We kissed with brimming love, and with the certitude that our love would continue to grow from now until forever.

All our passion was in that kiss, until the sacrament of marriage enabled us to take our passion further.

Oh, we kissed! On an island that was our perfect Eden.

The sun, eventually, would swing far enough to the northwest that it would disappear behind the wall of mountains.

I don't know how long Johan Erik and I stood on our sunlit dome of rock, among the bushes with their tiny leaves so green and fresh.

I don't know how long it was before someone in our family noticed that we were missing.

But I do know that we returned to the porch of Rorbu 16 while the sun was still shining, so that I could show my mother the sunlit ring on my finger.

Part Three

A Different Planet

A Wedding in 2050

Chapter Fifty-Seven

We tried.

For forty years, we tried.

Good-hearted, well-meaning, highly motivated people around the world understood that the wind and the sun could replace oil and coal within twenty years, if we would only let them. But no matter how many wind farms those enterprising people built, no matter how many solar collectors they installed, people of a different attitude—or no attitude at all; they lived in an unthinking coma—kept driving their cars and traveling in planes, all powered by oil, as if the cars and the planes would simply go on forever. Power plants around the world kept burning coal to produce electricity, because coal was “cheap”.

And so, without a clear decision to do it right, we worked against ourselves. We brought the bad habits of the twentieth century all the way to the middle of the twenty-first century. And then we paid for it. Big time.

By the mid 2020s, methane was seeping from the thawing tundra in steadily increasing quantities. The news media mentioned it. The politicians mentioned it. Coal and oil did not mention it.

By 2030, methane emissions were spiking: satellites detected abruptly denser concentrations of methane in the atmosphere. Temperatures around the world rose steadily, bringing summer droughts to every continent, and winter rains instead of winter snow.

Scientists no longer warned about passing a “tipping point”: we had passed the methane tipping point and there was now no stopping the cycle that fed upon itself. Vast areas of thawing tundra released arctic clouds of methane, far more potent than carbon dioxide as a greenhouse gas. The methane blanket spread to lower latitudes and trapped heat from the sun, warming the Earth, so that more tundra thawed, and more methane billowed into the sky.

Our planet had a fever, and the fever was getting steadily worse.

Nevertheless, the oil producing nations continued to produce oil, and the oil consuming nations continued to consume. Our feet were stuck in the tar pit.

By 2040, the “Methane Monster”, as the media now called it, was clearly out of control. We had poisoned the Earth; now the Earth was poisoning us. And there was nothing—absolutely nothing—that we could do to stop it.

Scientists had been warning us since the late 1970s, and lo, they were right. For it came to pass: the droughts, the floods, the hurricanes and tornadoes, the insects and diseases became our daily news, as if plague after plague had come to devastate the wicked.

But this, we knew, was just the beginning. Planetary quantities of methane were still frozen in the ring of ancient tundra around the top of the Earth. How long—in decades, in centuries—would it take for that tundra to thaw? How long before all of the methane was finally released?

And then, how long would the stinking methane poison the atmosphere, before it began, slowly, to break down . . . forming carbon dioxide?

And then, how long would it take for the battered and ravaged Earth to return to normal temperatures?

Yes, we knew in 2040 that the fever was just beginning.

During those same ominous decades, Rashida and I graduated from high school in Svolvær in

May of 2015. We were married in Henningsvær Church on Mid-Summer's Eve in June. We graduated from the University of Oslo in 2019. Continuing in Oslo, a city that we had grown to love, I completed a master's degree in Clean Energy Economics in 2021; Rashida graduated from medical school in 2023. We then developed our careers in Syria for the next three years, until, in 2026, at the age of 30, we became the parents of a daughter. We gave her an Arabic name, Haleema, after Rashida's grandmother.

In 2029, our son was born in Syria. We named him Omar, after Rashida's father.

By 2030, when Haleema was three and Omar was one, the massive release of methane from the thawing tundra was altering the atmosphere of planet Earth. The positive feedback had begun. People felt an unprecedented fear: a gnawing sense of doom, because a totally unpredictable catastrophe was fast approaching.

By 2040, the Methane Monster was out of control. Rashida and I were trying to raise two children in a world where malaria was creeping north. The length of the Euphrates River, in places a mere stream, and in places a muddy trench, became a war zone as people fought for the last of the water. Smoke from forest fires wrapped around the planet, both summer and winter. Oceans were rising; refugees on a vast scale moved like human tidal waves into other countries.

The Arctic ice cap had disappeared; now the entire Arctic Ocean no longer reflected most of the sunlight, but absorbed it, turning it into heat. Ocean currents, warming to lighter densities, wandered in new directions.

In 2050, our daughter Haleema, now twenty-four years old, with a master's degree in Community Health from the University of Oslo, was planning her wedding in June to a Syrian doctor named Abdullah, a dedicated young man whom she had met while doing her field work in Aleppo.

The wedding would take place in Henningsvær on Mid-Summer's Eve.

Abdullah and his family would travel on a series of boats from Latakia, Syria's port on the Mediterranean, to the port of Svolvær, above the polar circle in northern Norway, where they would meet Haleema and her family. The mother of the groom wrote to the mother of the bride that she was learning to knit mittens for the trip.

Yes, for forty years, we tried. Good, well-meaning people around the world devoted their careers to a greener world. But they were not able to turn off the oil. They were not able to stop the burning of coal.

They were not able to stop the wars that were no longer over something as simple as oil or diamonds or ethnic hatred. These new wars were conflicts without any end, for desperate people fought over diminishing land, diminishing water, diminishing food.

Before, people had loved their children with a pure and powerful love. Now, that love was increasingly clouded by a sense of doom; we were raising victims of a holocaust of our own making.

In June, 2050, Rashida and I, at the age of fifty-four, helped our vibrant, well educated, and very beautiful daughter Haleema to plan her wedding in Henningsvær Church, and the reception at Rorbu 16 . . . the red cabin with white trim on the little island, where Haleema's father, while a teenager, had worried so much about the melting ice cap.

Chapter Fifty-Eight

Johan Erik has put almost forty years into a tiny little package.

I feel that I must go back, to look more closely, at the time when the civil war in Syria finally ended, and slowly, slowly, the vibrant Renaissance that I had discovered at Danish Wind in 2013 came to transform our people too.

By 2020, from Morocco in northwest Africa at one end of our neighborhood, to Turkey at the other end, people felt that they were at the beginning of a Golden Age. No matter what sect we had belonged to, the sun belonged to all of us. As we set up solar panels and solar collectors across our deserts, catching the sun while camels ambled past, we were doing so much more than turning sunlight into electricity. We gave people work. We gave people an education. We gave people a purpose. And we gave people, almost above all, equality.

When a new branch of the University of Aleppo opened in 2017, with funding primarily from Saudi Arabia, it had a unique charter. The men and women who had survived the civil war in Syria, and who were now struggling not to rebuild their old country, but to build a *new* country—a country that could succeed in the twenty-first century—wrote in the founding charter of the Abundant Energy Institute that fully *half* of the students entering each year, *fifty percent*, must be women. They too would train to become engineers, economists, legal experts, and designers of the future.

As solar collectors spread across our deserts, and as wind turbines spun along our Mediterranean shores, we built a modern grid across northern Africa, a grid that hooked around the eastern end of the Mediterranean up to Turkey, a grid that reached by underwater cables across the bottom of the Mediterranean to southern Europe. This grid collected Moroccan wind and Egyptian sun, Syrian wind and Turkish sun, then distributed the power to cities and towns and villages in a manner that was efficient, dependable, and—because we were all working together—inexpensive. We felt like brother nations.

Our Arabic people became mathematicians again. We became scientists again. We became poets again. We felt that we lived in a special age, when *the best* of who we were could finally flourish.

By 2027, after the Abundant Energy Institute had spent ten years educating young people from Syria and a dozen other countries, we began to feel that the democracy which we had dreamed of . . . was growing deep roots. Democracy did not come from shouting politicians. It did not come from Washington, it did not come from Brussels. It came from people, in growing numbers, who worked together to harvest the sun, to harvest the wind, so that they could give their children and their grandchildren genuine prosperity, and genuine peace.

The old hatreds withered and vanished. This, people felt, was Allah's will.

Wasim was part of that Renaissance, though he had to wait a long time before he could take his education in Norway and his training at Danish Wind to the land that would forever be his home, Syria. As a Danish Wind engineer, he helped to design a sturdy wind turbine that could withstand the harsh conditions of a desert: high temperatures and blowing sand. These turbines were small enough to be transported by truck and erected without large cranes. They were not connected to the grid; instead, they supplied power to remote villages far from the grid. Wasim's new generation of wind turbines brought electricity—and thus lights and computers and refrigerators and telephones—to villages where people still drew their water from a well, and tended their ancient olive trees, and transported their goods by donkey.

Wasim's wind turbines brought dependable electricity to villages where bright children—who in the past would have used but little of their talents—could now become a part of our Renaissance, of our

Golden Age.

Of course, at the same time, some of the countries in our neighborhood were still selling oil. And thus we worked against ourselves. While we were building a beautiful new palace, we were also digging away the earth beneath the foundation.

Every barrel of oil ended up in the atmosphere, blanketing our world, and thus caused a bit more of the tundra to thaw. Each barrel of oil engendered at least a barrel of methane.

Every barrel of oil fed the middlemen who took their percentage as the oil was transported and refined and distributed on a global market, and who thus did not care a whit about somebody's tundra.

Each barrel of oil required somebody's army to protect it. Each barrel of oil required new weapons, and people trained to use those weapons. Each barrel of oil brought the old ways of thinking into the twenty-first century.

We did not turn off the oil spigot until it was too late. The course of human history pivoted on that one failure: our inability to act in time. And so we passed the "tipping point", though we had been warned countless times.

Why were we so negligent? Why were we so unrelentingly stupid? Now in the year 2050, when the methane monster was out of control, people brood on those questions.

There are economic answers, political answers, psychological answers. But I am certain of one dominant cause: We did not believe enough in ourselves.

We thought of ourselves as what we had been, not as what we could become.

When the Creator gives us a new child, we should focus on the possibilities of the next seventy years, not the failings of the past five thousand.

We did not believe that we could build an entirely new economy, based on clean energy, an economy vibrant enough to replace the old economy, based on oil and coal. We did not believe that we could build a flourishing economy that would take us, in prosperity and good health, to the end of the twenty-first century. We did not believe in ourselves; we did not believe in what we could do.

We did not believe in the sacredness of life. Or even in the fragility of life. Perhaps we will have to find ourselves at the brink of extinction before we realize how precious we are.

We did not see how far we had come—our great human journey was already well under way—so that we might take heart and press on even further. In America, as I have read, people rode horses in 1800, rode on trains in 1850, and flew in an airplane in 1903. Such progress in one century. Then . . . why do we falter now?

Not to believe in ourselves is a great sin.

The Creator did not create his children as perfect creatures, but he gave us enough instruction that we could tend in that direction.

Our job is to continue our journey as people who evolve, not who stagnate.

These are the thoughts of a woman named Rashida, fifty-four years old in 2050, on the eve of her daughter's wedding.

Inshallah. God willing.

Chapter Fifty-Nine

Johan Erik speaking, about a night of appalling tragedy.

Ships were sailing toward us.

On one hand, Abdullah and his Syrian family were traveling on a series of sailing ships from Syria's coast on the Mediterranean to the port of Svolvær, where they would be met by Haleema and her Norwegian family. The ships were twenty-first century vessels, built to be efficient and safe. Yes, they took longer than jets once took to complete their journey, but they offered classes along the way, in marine biology, in ocean ecology, in celestial navigation, and in handling the lines and sails, so that when passengers arrived at their destination, they were not jet-lagged; they were seafarers with a greatly deepened understanding of life in the sea, and of the stars in the heavens, and of the harnessing of the wind.

It was a twenty-first century way of doing things: clean sails, comfortable quarters, excellent communications, an electric back-up engine, and a hearty dose of education.

On the other hand, a fleet of warships was sailing across the North Atlantic toward the open waters where the Arctic ice cap used to be. Washington had issued a statement saying that the fleet would traverse international seas over the top of Asia to its final destination, northern Alaska. The statement did not say why an aircraft carrier, three destroyers and five cargo vessels—carrying an unknown cargo—were needed on the northern coast of Alaska. Nor did it say why they had chosen that route.

An American fleet of warships would sail along the entire northern coastline of Russia. From the Russian point of view, the fleet would be a baffling and dangerous provocation. Were the Americans preparing an attack, in order to secure the Arctic oil fields? Would they land troops on Russian soil?

Or would they simply parade by, thumbing their noses, on their way to Alaska?

The Americans did not ask, of course, for Norway's permission before they launched this maneuver. Norway had no idea whether or not the Russians would try to block the American fleet, nor where the confrontation might take place.

Might the two fleets face each other as the American ships were sailing over Norway's northern coast, which bordered Russia?

Most likely, the American fleet was armed with nuclear weapons: cruise missiles at the very least, able to reach Russia's northern naval port, Arkhangelsk, with its fleet of submarines.

Thus came the question: How many American submarines were secretly accompanying the surface fleet as it sailed across the North Atlantic? What missiles did they carry?

And why, we Norwegians asked, did the Americans have to poke their nose into trouble as Mid-Summer's Eve in June was approaching? To have twenty-four hour daylight during the operation? We didn't know. We didn't know.

What we *did* know, five days before the wedding, was that Abdullah and his family—as well as Rashida's mother Zainab, now seventy-six, and Rashida's brother Wasim, now fifty, with his family—all arrived safely and in high spirits at the port of Svolvær. During the next three days of preparations and picnics, our two families, Norwegian and Syrian, completed their interweaving. We stayed in the cabins on the wharf and shared meals in the restaurant. We had a hike and a picnic on Sauøya, beneath the watchful mountains to the north. Some of us went fishing aboard the *Laila*, taking turns along the gunnels with our hand lines; we came home with a feast of haddock and cod. We were enormously happy, and deeply proud. The marriage of these two children, these two brave and beautiful children, was cause for

great celebration.

The dangerous world beyond our little village was not going to take this wedding away from us.

Something else almost did.

Weather from the north. For centuries, since men had first sailed along the coast of Norway, storms blew in primarily from the west or southwest. From the north came cold clear air: steady winds, welcome winds.

But that was back when ice had capped the Arctic Ocean. Once the ice had disappeared, enabling open water to absorb heat from the sun, the Arctic Ocean became something completely different. Currents changed, the winds changed, and a dry place once too cold and stable to foment storms now became a wet place with unnaturally warm waters, and no impediments to oceanic waves. The silent north had become a cradle of storms.

Norwegian fishermen knew this; they responded immediately to weather warnings by sailing to the nearest port, their home port if possible. The hundreds of sailing vessels that transported passengers along Europe's Atlantic coastline headed for the nearest ports. The huge Norwegian coastal steamers—all running on biofuels these days—sought shelter in the fjords.

The American fleet—we heard reports on the news every day—sailed south of Iceland and north of the Faeroe Islands toward central Norway. Then it veered north and headed toward the waters west of the Lofoten Islands. The American Navy was about to pass through our neighborhood on its way to Russian waters. And bad weather was blowing in.

During the two anxious days before the wedding, everyone on Henningsvær, ourselves included, was boarding up windows and snugging extra lines on the boats in the harbor. We had been warned that the approaching storm was a big one. Our guests from Syria lost their ocean view as we boarded up their cabin windows with sheets of plywood.

The wedding, we joked, would have to be postponed for a few days. The bride and groom would simply have to wait.

We had enough food—for the wedding banquet—to sustain us for a week. We filled bottles with water. We charged our telephones, hoping that the relay tower on the southwest corner of Henningsvær would stand up to the winds. We charged the batteries in our radios and followed the news from the mainland.

As warnings grew worse, we moved mattresses and bedding from the cabins to the restaurant. We would all be together when the storm hit.

Uncle Lars determined the direction toward Mecca, then he taped a sheet of paper with a star and crescent on the restaurant's southern wall.

Because we prayed while the storm approached, as fishermen pray, and as Arabs pray. Keep us safe, O Lord. Keep us safe, *Inshallah*. Keep us safe.

During the night between the churning dusk of June 20, 2050, and the howling dawn of June 21, (which should have been a wedding day), a storm hit the Lofoten Islands with winds more fierce than even the old fishermen could remember. About an hour after midnight, the front hit Henningsvær with ferocious winds and pounding rain. During the first minutes, the plywood on a restaurant window was torn away. Moments later, a piece of the wharf came crashing through the window, followed by a blast of wet wind. My brother Sigurd and I, with Abdullah's help, finally managed to cover the window by nailing a table over it.

Because we were in the lee of the Lofoten chain, with bigger islands to the north and west, we

were spared the worst of the waves rolling from the north. We heard on the radio that in towns along the exposed outer coastlines of Lofoten and Vesterålen—our sister islands to the north—people were evacuating toward any shelter they could find higher on their islands. Waves from the storm were washing through the streets of their towns. Boats were lifted from the harbors and tossed ashore. Piers and bridges were ripped from their moorings.

Our restaurant had once been a wharf warehouse; it had been built a century ago with heavy beams well anchored to the granite bedrock. Huddled on the ground floor, we could feel the building shake. The wind roaring over the roof, and the rain hammering on the plywood, were so loud that we had to shout to each other with hands cupped around each other's ears.

We had set three battery-powered lanterns on the tables. Within minutes after the storm hit, the power went out. But our lanterns were ready.

Rashida looked at me in the dim glow and laughed, "This is almost as bad as the war."

Then, beneath the mad wailing of the wind, I heard another sound: a strong, steady sound. Looking around, I discovered that Abdullah and his brother Joussef were singing in Arabic. I recognized the song from my years in Syria: it was an old song from the countryside, sung by farmers who carried heavy baskets of olives from the orchards to the barn.

Abdullah's mother and father joined the two young men. His sister Batuul joined them. Our Haleema and Omar joined them; Haleema stood beside her fiancé Abdullah, though without touching him. Rashida, beaming a smile, joined them. Wasim and his wife and three children joined them.

Then Zainab, gray-haired now beneath her *hijab*, but still indomitable, joined with a voice that stood out from the others, and stood out even from the hammering rain, the thundering wind.

We Norwegians listened, all nine of us. Until it was our turn. Uncle Lars and Aunt Louise, both of them white-haired in the glow of the lanterns, now began to sing an old Norwegian song about the steamship that once had sailed up and down the coast, with a brass bell that rang so brightly. We all knew the words, of course—I had learned them from my grandfather before I could read—so we added our voices: my mother and father, my brother Sigurd and his wife and two grown children, and myself (who sang like a drowning turkey). It was a happy song, full of pride in the old steamboat. Our smiles while we sang brought smiles to the faces of our Syrian guests, even though they could not understand the words.

We sang for almost an hour, then we ate—while the storm raged outside—a picnic dinner from all the food in the restaurant kitchen. We lit red candles on the tables, then turned off the lanterns and thus treated ourselves to a touch of elegance. Uncle Lars, the surgeon who had served in a refugee camp decades ago, and Zainab, the midwife who had assisted him in a Cesarean birth, sat beside each other. The rest of us sat in a mix of brothers and sisters and uncles and aunts in what was, in every way but that certified by a minister, already a family.

Uncle Lars said a prayer. Abdullah's father Mohammed said a prayer. And then we broke bread with each other.

We had been asleep for several hours—as much as a person could sleep with the wind howling like a pack of maddened wolves outside—when we heard a voice cry out, "No! No!"

Rashida and I sat up on our mattress on the floor of the restaurant. Uncle Lars was sitting at a table in the glow of a lantern, listening with headphones to his radio. He shook his head slowly, his face filled with horror.

"The American fleet is crashing on the outer shore of Vesterålen. The aircraft carrier was trying to hook around Andenes at the northern tip, but it was blown back and now it's in two pieces on the rocks near Bleik."

While we were here, snug and safe, others out in the storm . . .

“Two of the destroyers have washed against the rocks. One has vanished.”

Rocky shoals, hidden beneath the surface, could turn a vessel upside down in a matter of seconds, tossing the crew into a cold wild sea. Rocky islands. Rocky cliffs. Ours was a sea and a shoreline that showed no mercy.

“Planes from the aircraft carrier are drifting ashore. Bodies wearing orange life jackets are drifting ashore. A fisherman from Strengelvåg says it looks like the end of the world.”

Why, why, why didn't the fleet hook inside the Lofoten Islands before the storm hit? The Vestfjorden would have given them sanctuary. They could even have sailed to Bodø and taken shelter in Saltfjorden, a long narrow fjord that reached deep into the mainland. The Norwegian Navy must have radioed warnings to the Americans, and no doubt suggested a route to safe waters.

“The cargo ships are scattered all the way down to Straumsjøen. But not a single man has been found alive on shore.”

I remembered, from way back in high school, reading about the Spanish Armada. The fleet had sailed north from Spain in 1588 with the intention of landing troops on the English coast. After indecisive battles, the Armada sailed north over the top of Scotland, then the ships sailed west . . . until they hooked south with the intention of sailing past Ireland and making their retreat back to Spain. But the warships were struck by a storm that blew many of them onto the Irish rocks. The proud voyage ended in sudden catastrophe.

Fools never learn.

My father asked, “Do they have nuclear weapons on those ships?”

No one knew.

“Those poor boys,” said my mother. “Those poor, poor boys.”

We lay back down on our beds while Uncle Lars continued his vigil.

I wrapped my arm around Rashida. She was crying. The girl who had fled from a bombed city in the night, the woman who never forgot that horrid war, was crying because she knew the terror when dead people were scattered on a dark street.

Or scattered in the dark sea.

Chapter Sixty

It was late afternoon on Mid-Summer's Eve before we dared to venture out. The wind had settled enough that we could walk along the wharf—stepping over the gaps where boards had been blown away—to see what damage had been done to the cabins, and to the *Laila* in the harbor. Heavy rain was still coming down, gusts of wind buffeted us, and an occasional wave splashed up to our boots, but Sigurd and I, with our father, managed to make a quick inspection of the cabins. Two windows were broken where the plywood had blown away, and most of the shingles had been torn off, but not a single roof had blown away. (We saw two other buildings at our end of the island with part of a roof missing.)

Other people in the village were venturing out as well. We talked with several friends on our way to the harbor. As far as anyone knew, no one in the village had been hurt. Several cars had been rolled by the wind. The poles from cod racks were scattered everywhere. An orange kayak was lodged up on Løvd's roof, wrapped around a chimney.

When my father mentioned the American fleet, a fisherman named Ole Magnus stared at us, incredulous that such a thing could happen. "I heard on the radio, there's over a thousand bodies from the aircraft carrier washed up along the shore. Sailors in life jackets were tossed by the waves in some places right into the trees."

The *Laila*, like most of the boats in the harbor, was in good shape. Some of the lines were chafed, but none had snapped. Before the storm, we had lowered the wind turbine and lashed it to the deck; the nacelle and three blades seemed to have suffered no damage.

Henningsvær was on the lee side of the Lofoten, with the big islands of Vestvågøy and Austvågøy between us and the blast from the north. The harbor, long and narrow between two protective islands, ran north and south, allowing the wind to blow along its length, but waves never had a chance to build.

"Best harbor in the world," we had often told ourselves. Last night, once again, we had proved it.

We made our way back to the restaurant and reported that Henningsvær had come through the storm in fairly good shape.

Rashida asked if we might *all* go outside for some fresh air.

"Yes," I replied, "but be careful where you step. The wharf has taken a beating. There are gaps and broken glass."

So everyone except Uncle Lars (still listening with headphones to the radio) put on rain gear and a pair of boots. As the wary Syrians stepped carefully over gaps in the wharf—dirty water churned below—and inspected the intact red cabins where they had initially been lodged, they thanked their Allah again and again, for they had survived a hurricane in Norway.

We walked all the way to the harbor, for Rashida wanted to see for herself that the *Laila* was in good shape. She loved that boat as much as I did, and wanted to feel the deck, solid and safe, beneath her feet. When we opened the door to the wheelhouse and peered inside, she told me, "Your grandfather would be glad to know that his charts are still dry."

Our group—laughing now, and wanting to take pictures of the wedding party wearing rain gear and boots, with hoods wrapped around our grinning wet faces—returned to the restaurant, where Uncle Lars had two pieces of news for us. First, the American cargo ships had been carrying components for offshore oil platforms. Derricks and drills and pipes were heaped inside the wrecked hulls.

The northern coast of Alaska—the fleet's purported destination—was already sucked dry of oil,

both offshore and onshore. So where had the fleet actually been headed?

The second piece of news was at first equally puzzling. But then, in a sad way, it made sense.

All across Russia, people were ringing church bells. When a shopkeeper in St. Petersburg was asked by a reporter why so many bells were ringing, he replied, “God has brought us peace. These are bells of thanksgiving. These are bells of great celebration.”

Several other Russians who were interviewed expressed their sorrow for the men aboard the American ships. But they were relieved, profoundly relieved, that their own Russian ships would not have to sail into some sort of conflict. Their crews were safe. The threat of a battle, and perhaps of a war, had vanished.

Uncle Lars unplugged the headphones from the radio so that we could hear the ringing of jubilant bells at St. Nicholas Cathedral in St. Petersburg. Bells were also ringing, as the reporter told us, in Murmansk and Arkhangelsk in northwestern Russia. Bells were ringing across the northern coast of Russia, in Novy Port and Ust-Olenok and Tiksi and Ambarchik, all the way to the Bering Strait, just across from Alaska.

Bells were ringing in Moscow. Bells were ringing in Tula, in Tomsk.

Not since the end of the Great Patriotic War in 1945, over a century ago, had there been such an outpouring of national gratitude, national joy.

Norwegians and Syrians together took down the sheets of plywood from the restaurant windows, letting in daylight from a sun still obscured by heavy clouds.

We took down the plywood from the cabin windows as well. When the rain stopped, we would return the mattresses to their beds.

That evening at dinner, we had a guest, Father Pedersen, the Lutheran minister of our little church in Henningsvær, who stopped by in rain gear and boots to discuss a rescheduling of the wedding. He told us that a portion of the church roof had blown off. The carpet was soaked and many of the hymnals had been ruined.

After some discussion, we agreed that we would have the wedding on the first morning of clear sky—that wondrous crystalline blue sky that almost always followed a storm—and that the wedding would be outside, on the wharf in front of the restaurant. We would nail new boards over the gaps. Our chairs were dry. We still had food for the banquet in the kitchen.

Yes, outside by the sea, we would set up a church and have our wedding.

Father Pedersen was a bit disconcerted by our suggestion. He proposed using our restaurant, or the conference hall, or perhaps *Festiviteten*, the village’s community hall, as the “venue” for our wedding. But all nineteen of us held fast to our idea of a wedding on the wharf. Out in the sunshine by the sea.

Abdullah’s brother Joussef, an *imam* (a prayer leader) in his mosque in Aleppo, spoke for half an hour with Father Pedersen over coffee, weaving a Muslim wedding ceremony into a Lutheran wedding ceremony, so that although Father Pedersen would sign the papers and legalize the marriage . . . both God and Allah would be called upon to bless the union.

Father Pedersen thanked us for the dinner, but he looked as if he had a lot to think about when he departed in his rain gear and boots along the wharf toward home.

Chapter Sixty-One

I, as father of the bride, sat in the first row of five chairs on the wharf, with Zainab seated to my right. Rashida's empty chair stood to my left. Beyond her chair sat Abdullah's mother and father. The rest of the wedding party sat behind us, speaking quietly now and then in Arabic, in Norwegian, as the wedding ceremony proceeded.

Seagulls, which had sheltered somewhere during the storm, swooped above us on long white wings in the crystalline blue sky of a perfect summer day. Our faces were lit from the right by the morning sun. We breathed cool fresh air tinged with brine from the sea. Gentle waves washed against the pilings beneath the wharf.

This was the perfect day that every fisherman knows must follow a storm.

From a nearby island, we could hear the exuberant "Kleeeeeep! Kleeeeeeeep! Kleeeeeeeep!" of a pair of oystercatchers feeding along the shore. After all these years, they were still in love.

Yes, an outdoor wedding on the wharf . . . in everybody's church, everybody's mosque . . . was a wedding that we would treasure forever.

Haleema and Abdullah stood in front of us, their backs to us, a married couple now. They faced Rashida, who stood where minutes before Father Pedersen and then Joussef had stood. Behind Rashida, beyond the buildings of the village—some with and some without roofs—the towering wall of jagged black mountains formed the majestic altarpiece of our church.

Rashida looked at the faces of our daughter and her new husband. "Haleema and Abdullah, we attend your wedding with great joy in our hearts. There have been times in my life when I never could have believed that I would see a daughter married. And yet, here you are, strong and bright and beautiful, married to a man equally strong and bright, and so wonderfully handsome."

Haleema glanced at her Abdullah, just enough that, from behind, I could see her jubilant smile.

Rashida continued, "Thirty-seven years ago, on Saturday, May 11, 2013, Johan Erik and I stood on a dome of rock in the evening sunshine, behind his red cabin on a little island." She pointed across the water to Rorbu 16 on its nearby island; the floating dock had been washed away by the storm, as had parts of the porch. But the cabin itself, built by my father and grandfather, still stood, red with white trim. "After a most extraordinary day—a day on which a dozen architects of the future told us about their dreams—Johan Erik and I snuck off from a family picnic to a spot warmly lit by a golden sun . . . where he put this gold ring on my finger." She held up her hand to show everyone the ring which she had worn since she was a girl of sixteen. She smiled as she said, "We were so in love . . . that at the picnic, my mother had to remind me to eat."

She looked at her mother and laughed. Zainab nodded with remembrance and laughed as well.

Now the tears began to trickle down my cheeks. Rashida and I had been—though we were just two kids who had known each other for less than half a year—so profoundly in love. Such a gift.

"In 2013, there was still hope that maybe we could avoid this thing called 'climate change'. We were building wind turbines, we were building solar collectors, and by 2020, as we told ourselves, we would be powered 20%, or 32%, or 80%, by the wind and the sun, and by the ocean waves, the ocean tides. Yes, we thought, in 2013, that we still had a chance."

She paused, her face troubled. "Now we know better."

A puff of wind swept gently along the wharf, carrying the scent of birch trees in the village, and wet grass, and wildflowers opening their petals after the storm.

“So we attend your wedding today with great joy in our hearts, but also . . . with an aching sadness. We wish that we could give you a better world.”

She looked at her brother Wasim, seated behind me with his wife and three grown children. “Wasim and I, and our extraordinary mother . . . we come from the ancient city of Aleppo. Archaeologists have found signs of civilization near Aleppo reaching back to five thousand years before the birth of Christ. As we are now gathered today two thousand and fifty years *after* the birth of Christ, we can say that my brother and mother and I come from a place where people have been living for seven thousand years.”

Rashida looked at the Norwegians in the wedding party. “The glaciers melted from your Norway twelve thousand years ago. That will give you some sense of time.

“Our Aleppo is listed as one of the oldest continuously inhabited cities in the world. We have been through countless wars, earthquakes and droughts, but we are still living—still struggling—where camels once followed the trade routes from China and Persia to the Mediterranean.

“After twelve thousand years of a fairly stable climate on planet Earth, and after seven thousand years of irrigation ditches and olive orchards, of fortresses and palaces, and of every possible sort of mosque and church and temple and shrine and synagogue . . . after seven thousand years of innovation and perseverance, what are we now to do?”

She raised her voice, “What are we now to do, as the Earth grows warmer, as storms grow ever more powerful, as the seas rise into coastal cities, and as crops wither during droughts measured not in years but in decades?

“What are we to do, during the next century, while the ring of frozen tundra slowly thaws, releasing its methane like a planetary plague?

“What are we to do, during the *second* century, when the thawing finally ends and all the methane has been released? The blanket of methane will slowly break down in our atmosphere; more and more heat will be released from a fevered Earth. The worst, perhaps, will be over.

“And then, . . . what are we to do, during the *third* century, while the Earth slowly cools, and perhaps a bit of snow begins to fall on the mountaintops? A bit of water begins to trickle down into a dry riverbed.”

I could see now, tiny as a speck but with distinct wings, a sea eagle circling above one of the mountain peaks behind Rashida, riding the wind that blew across the sea and then swept up the rocky slopes.

“Haleema and Abdullah, you are married today in 2050. Your children, my grandchildren, will be ready to marry, we hope, in 2075. And *their* children will be ready to marry in 2100. I wonder: What will the world be like on their wedding day?”

She paused. No one could answer that question.

“So I would like to pronounce a special blessing on your wedding.”

Looking beyond the married couple, she spoke to all of us, her voice strong with conviction.

“Let us look for the good in every person, as we forget the ancient hatreds that have so long impeded us. Let us set aside the ‘begats’ from a past that never will find its way to a just and lasting peace, and turn our attention rather to what we shall beget.

“Let us look for the good in every person, so that we become, in our search, one people.

“And let us look as well, as we build our peace with each other, for ways to build our peace with Mother Earth.

“Every religion in the world has its understanding, its story, of the Creation. Life appeared in the world, in the ancient and mysterious past. But where are the scriptures which describe the plundering of life, the extinction of life, the global poisoning of life? Where are the scriptures that list among our sins

the destruction of Creation?

“Adam and Eve ate the apple, whereas we have poisoned all of paradise.”

Rashida looked at our faces, one by one.

“Let us write a new scripture . . . about the sanctity of life.”

Now she looked again at the wife and husband standing in front of her, and I saw the radiant love in her eyes.

“An ancient Persian poet—whose name no one remembers because she was a woman—wrote two verses which I would like to give to you, Haleema and Abdullah, on your wedding day.”

She turned to a small table—on which both the Koran and the Bible lay side by side in the sunshine—and picked up a wooden plaque with, as she showed us, two verses written on it.

“The poet wrote, ‘Blessed is life, sheltered beneath the skirts of the universe.’”

The waves washed beneath us. The warm sun shone upon our faces.

“And the poet wrote, ‘The world was made for love. And if ye love it not, so much the less ye liveth.’”

Rashida handed the wooden plaque to both Haleema and Abdullah, who held it together as they said, “*Shukran.*”

Haleema took the plaque in her hand, then she reached for Abdullah’s hand—never mind that an audience was watching, for they were married now—and squeezed it.

Rashida said, “*Salaam Alaikum.* Peace be with you.” Then she stepped forward and kissed the bride on the cheek, and the groom on the cheek.

And so, despite those three centuries ahead of us, when our otherwise tranquil twelve thousand years will be severely disrupted, everyone stood up from the chairs on the wharf and applauded.

Our Crowning Achievement

Chapter Sixty-Two

This is Wasim speaking, in the year 2079, the one hundredth anniversary of the first commercial wind turbine built by Danish Wind, in 1979. My wife, Nermeen, and I are in our shared office at the Danish Wind headquarters in Aarhus, Denmark, where they allow us two old workhorses to continue our labors. As I was born with the century in the year 2000, I am now seventy-nine years old. Nermeen, my “bride”, as I still call her, is a year younger. We greatly enjoy working every day with the young generation, who are as bright and motivated and filled with a sense of urgency as Nermeen and I were at their age.

We shall soon go downstairs to the atrium, where a multitude of tables have been set for the celebration banquet. We want to have a few quiet moments alone, before we join our several hundred Danish Wind colleagues for an evening of toasts and feasting. For a few quiet moments, we want to savor all that we have done.

Another reason keeps us here in our office. In a few minutes, our three children will call from Palestine—we will see them on the screen on Nermeen’s desk—to send us their congratulations.

Looking back over a long career with Danish Wind—a career that has spanned some of the worst decades in human history, with no end in sight—I can say that clean energy has been a success. From the time when I first watched the Turkish engineers setting up five small wind turbines outside the fence of the refugee camp, to the over four million turbines that spin around the world today, on land and at sea, the wind has been our steady friend . . . as our global economies collapsed, our populations were devastated by famine and disease, our forests burned, the sea sickened, and a dozen nations, big and small, became war zones.

The wind said, “Here is my power. Harness me.” The sun said, “Here is my power. Harness me.” The waves and the tides in the sea, and the heat deep in the Earth, all offered their steady help. While methane spewed from a melting tundra, and ashes blew over the parched land, and the great rivers dwindled to troughs of mud.

We have lived with two graphs through the decades of the past half-century: a graph of rising temperatures, and a graph of declining global population. No longer do we worry about how to feed eight billion people; now we worry about how to feed four and a half billion, at the last rough count.

Our banquet this evening shall actually be quite humble: Danish chicken (the chickens require shade through the day, but otherwise they tolerate the heat), Danish potatoes (watered with desalinated water from the sea), and Danish carrots (another hearty vegetable), with home-grown papayas for dessert. And of course, since this is Denmark, plentiful beer, as well as plentiful wild berry juices, also made with desal from the sea.

Desalination has been the key to survival. Nermeen and I met each other in September of 2022, my first month of work at Danish Wind, when the company had the vision to see that wind turbines and desalination plants needed to be built as an engineering unit, for the world was soon going to be desperate for fresh water. Nermeen and I were both young engineers working with a Danish Wind team on our first project: low cost, transportable desal plants, for use on coastlines around the world, powered by offshore wind turbines.

The Arab countries along the shores of the Mediterranean saw the value of combining electricity

from the sun and the wind . . . with fresh water from the sea. No matter what upheavals a country was struggling with, if its people had abundant electricity and abundant water, they could survive.

I remember a photograph taken around 2025 of the western shoreline of the Gulf of Mexico, at the border between the United States to the north and Mexico to the south. In Mexican waters, offshore wind turbines powered desalination plants on shore. In American waters, oil rigs provided oil for refineries on shore. Well, Mexico has survived these decades fairly well. Whereas . . .

Another key to survival has been offshore wind farms along low coastal areas that would eventually be flooded by the rising sea. Onshore power plants become useless when flooded, whereas floating wind turbines simply rise with the sea and provide their power to a population struggling to survive. Bangladesh is an example of a country that has greatly benefited from floating wind turbines.

We have learned how well the wind and the sun work together. Solar collectors heat tall towers of molten salt, which become batteries of energy, by day and by night. Wind turbines don't mind if the wind is hot and dry; they will catch and use any breeze. Rarely are days so dark and still that people cannot turn on their lights and pump their water.

We learned the great efficiency of linking the wind and sun to transportation. As long as people could get to where they felt they were productive, with a *purpose* in their day-to-day lives—while they lived with those two horrid graphs of rising temperatures and population decline—they could maintain some degree of hope. When they stopped burning oil to get to work, and rode instead on a train powered by the wind and sun, their hope doubled.

Yes, we have learned an enormous amount. Nermeen and I are deeply proud to have been part of what Rashida once called “a Renaissance”. Without a doubt, we waited too long to get started. But once we did, our strides were long and bold.

* * *

This is Nermeen speaking now, for although Wasim is entirely correct in describing the many tangible benefits from the wind and the sun, I would like to add something equally important.

The release of methane from the tundra gave us the sense of urgency, of fear, of impending doom, that finally impelled us to do something, *now*. For decades, people did all they could to avoid the obvious, until we had quite obviously passed the “tipping point”. The Russian tundra, once a vast prison filled with gulags, now imprisoned all the peoples of the Earth with its unstoppable effusion of greenhouse gases. We were sentenced to one or two or possibly three or more centuries inside that prison.

And so we went to school. Every kid in every country had a job to do, and thus every kid was going to need an education. We learned how to work with the sun, we learned how to work with the wind, and we learned how to work with each other. Perhaps at no other time in human history have so many people learned so much . . . about what they desperately needed to know.

As Rashida delighted to say, “Who understands the sun better than a woman?” No longer could a community, a nation, a world, ignore the talents of half of the members of that world. No longer could the men say, “We'll take care of this,” because clearly, they couldn't. Nations invested in schools, for girls as well as for boys. They invested in universities, for women as well as for men. And do you know what? Those nations leaped forward in their thinking. They no longer thought in terms of profit, but in terms of community. And in terms of survival.

The old divisions began to fade. The sun and the wind did not ask if you were Sunni or Shiite, and eventually, neither did we. And *that* was certainly something new in the course of human history.

We all shared a dying planet, we all shared the same cataclysmic problems, and so we all worked

together to harness the sun, to harness the wind, and thus to survive as best we could.

Many questions remain. Will we make it through centuries of storms and fires and mysterious diseases? And if we do—if, at least, some pockets of us do, scattered here and there around the world—will we have learned enough to be able to live in harmony with the Earth, and with each other?

Will we have learned, *permanently*?

Or will we, as Earth slowly returns to health, and green begins to grow once more beneath our feet, begin to squabble again?

Given a new opportunity, a new Eden, how will people respond?

* * *

This is Wasim speaking again. I would like to finish our retrospection with a few words about our crowning achievement.

Nermeen, my bride, my heartbeat, the mother of our three children, was born in Gaza, a city on a strip of land along the western coast of the Mediterranean . . . a long-beleaguered strip of land called Palestine.

She and I, with a team from Danish Wind, designed a bold program which led to the installation of several hundred offshore wind turbines. Those Palestinian turbines power desalination plants, homes and shops, and a multitude of small industries. Equally important, solar panels cover the rooftops of Palestine. The Palestinians have finally found their true and steady friends: the sun and the wind. Nobody cuts their power off any more. Nobody cuts their water off any more. Nobody requires that they cross a border in order to go to work every day. In many ways, the wind and the sun have enabled the Palestinians to be free. To be innovative. To be prosperous, within the limits of our world today. If no one else would, then, at last, the sun and wind granted them their nationhood.

Oh, and here comes the call from our children in Palestine. There they are on the screen, standing on the beach with the sea and the wind farms behind them. Nermeen is seated at her desk, smiling as she says hello to them. Hani laughs and calls back to her mother with a wave.

May I introduce our daughter Hani, our firstborn, now fifty, a career engineer with Danish Wind, working in her homeland.

Beside her with his usual grin stands Bayan, born two years after his sister. He too works for Danish Wind, as an economist in the Gaza office.

And standing beside him is the youngest, Bassam, the family poet, as well as, like his father, a designer of wind turbine blades.

Now here come into the picture the husband and two wives, and how many offspring . . . ? Ten, as I count, young adults just starting their careers.

Oh, and now they are all shifting, the whole huge family, and the person with the camera is shifting as well (the cameraman is perhaps a friend from work), so that now Nermeen and I see Gaza behind them. Nermeen knows the Gaza of almost eighty years ago. Born there in 2001, she grew up in a war zone. But now, we can see part of the new university, with classroom windows looking out at the sea. I have taught there. I have tried to impart my passion for the wind and the sun in those classrooms. Nermeen has taught there. Danish Wind enabled us both to fulfill our passionate dream of helping to build a new Palestine.

Oh, and now they are unfolding a long white banner, with the word in big red letters, CONGRATULATIONS!

Congratulations to us, and to Danish Wind, for one hundred years of wind turbines.

Hani steps forward and says, “We wish we could be with you. But we are here, so that one hundred, two hundred, three hundred years from now, Palestine will be here too.”

Nermeen is in tears now. The girl born into the ghetto of a refugee camp has become, as we like to say, “The mother of a movement”. She and her family did not vanish from the pages of history. With help from the wind and the sun, she prevailed. She spent a lifetime giving to her people, and to all of us, a fighting chance.

Now they’re waving good-bye. Nermeen and I wave back, and the screen goes blank.

She stands, my bride, her eyes filled with love. I take her hand. We leave our office (she reaches out to switch off the lights), then we walk toward the staircase that will take us down to the atrium and our celebration banquet. We can already hear the blur of lively voices as people take their seats.

We descend the steps, just the two of us, unnoticed by anyone below. The tables have red candles and white tablecloths; tonight we are elegant. People from nations around the world fill their glasses with water and juice and wine, and laugh in high spirits; tonight we are festive.

Never mind, for a moment, the world outside those big windows filled with the fading glow of an April dusk. Never mind the next two, maybe three hundred years and what they will bring to our grandchildren.

Tonight we celebrate. We celebrate that finally, we believe in ourselves. We celebrate that finally, we believe in this once beautiful Earth. We celebrate that finally, we believe, each in our own way, in a Creator who had hoped for so much more for us.

And we celebrate because we’re still building wind turbines. With one century behind us, we look toward the two and three centuries ahead of us. We’ve made a good start. I think we can do it. I think we can make it through.

Rashida called it “a Renaissance.” Johan Erik called it “the most exciting challenge in all of human history.”

They would have been eighty-three this year. I wish with all my heart that they could be here at this banquet tonight. But they lie beside each other in the little cemetery of their beloved Henningsvær, listening to the waves washing against the rocks, listening to the cries of the seagulls.

And waiting for the time when the whales and the cod and the oystercatchers will all come home.