MEMOIR

In 2002, swimmer Lynne Cox attempted an ambitious feat—swimming a mile in the frigid waters of Antarctica. Cox sailed on the ship Orlova *with a team of seven friends, including team leader Barry Binder and her physicians, Susan Sklar, Gabriella Miotta, and Laura King. Martha Kaplan, Cox's agent, would scout for danger as Cox swam, while Dan Cohen stood by as a rescue swimmer. Scott Pelley, a television producer, also came. The ship's crew included Dr. Anthony Block and expedition leader Susan Adie.*

from

Swimming to Antarctica

Lynne Cox

When I returned to my cabin, I thought for a long time about what I was about to attempt.

I had mixed feelings about the test swim. In some ways, it had given me confidence; I now knew that I could swim for twenty-two minutes in thirty-three-degree water. But it had also made me feel uncertain. It had been the most difficult and probably the most dangerous swim I had ever done. Part of me wanted to be satisfied with it. Part of me didn't want to attempt the mile. I was afraid.

The water temperature on the big swim would be a degree colder. Thirty-two degrees. That was a magic number, the temperature at which freshwater froze. I wondered if in thirty-two-degree water the water in my cells would freeze, if my body's tissues would become permanently damaged. I wondered if my mind would function better this time, if I would be able to be more aware of what was happening, or if it would be further dulled by the cold. Would my core temperature drop faster, more quickly than I could recognize? Would I be able to tell if I needed to get out? Did I really want to risk my life for this? Or did I want to risk failure?

The other part of me wanted to try, wanted to do what I had trained for, wanted to explore and reach beyond what I had done. That part of me was excited about venturing into the unknown. That part of me knew I would have felt a tremendous letdown if I didn't get a chance to try. I wanted to do it now.

The next morning, on December 15, 2002, Susan called me up to the bridge. She pointed out Water Boat Point. The tiny gray beach between steep glaciers was completely blocked by icebergs and brash ice.[1] There was no place to land.

We continued sailing south through the Gerlache Strait, past mountain-high glaciers and by ship-sized icebergs ranging in shades of blue from juniper berry to robin's-egg to light powder blue. In the protection of the Antarctic Peninsula, the wind dropped off and the sea grew calmer. When we reached Neko Harbor, about an hour later, Susan called me up to the bridge. She was excited. The beach was free of icebergs and brash ice. A landing was possible.

Now I would have a chance to swim the first Antarctic mile. I was thrilled and scared, but I tried to remain calm; I knew that the weather could suddenly change and the swim would be off. I met with Barry Binder, who said, "I'll get the crew into the Zodiacs[2] and come and get you when everything's set."

I walked to the ship's library, drank four eight-ounce cups of hot water, and ate two small croissants for breakfast—they were high in fat and carbohydrates, two sources of energy I would need for the swim. Then I started through the hallway to my cabin, where many of the *Orlova's* passengers were waiting, eager to find out if I was going to swim. They wished me luck and said they would wait for me at the finish. I stopped by Dan's cabin to ask him if he would jump into the water with me at the end of the swim. He was already in his

1. **brash ice** *n.* floating fragments of ice.
2. **Zodiacs** *n.* speedboats.

dry suit, prepared to go. Everyone was doing what we had practiced. All I could do was to go back to my room and wait. Gabriella came in to take a core temperature; it was up to 100.4 degrees. Knowing I was venturing into unknown waters, I must have psyched myself up so much that I increased my body temperature. Gabriella left me alone while I put on my swimsuit and sweats. I rubbed sunscreen on my face, but not on my arms or legs; it could make my skin slippery, and if my crew needed me to get out of the water quickly, that would create a problem. The night before, three of the crew had spotted a pod of eight killer whales swimming into the Gerlache Strait. They hadn't been moving fast. I hoped they were still north of us.

I stared out the window at the brown crescent-shaped beach. There were snow-covered hills directly above the beach, and massive glaciers on either side. I picked out landmarks, places I could aim for, so I'd know if I was on or off course.

Dr. Block caught me at the top of the stairs, just before we stepped out the door and onto the ramp, and asked if I would sit down on a step so he could trace two veins on my hands with a blue Magic Marker. It was just a precaution, he said, in case I needed emergency assistance; this way he would easily be able to find a vein to start an IV. I gave him my right hand and watched him draw the blue lines for the television camera. It gave me the creeps. Why did he have to do this now, right before I swam? Didn't he realize this kind of stuff psychs people out? *I know the swim is dangerous, but he could have done this hours ago, not just before I swam. Get over it,* I told myself. *Shake it off. Take a deep breath. Refocus. Take another breath. Good. Now think about the swim.* I smiled. *I'm so ready for this.*

Walking to the door, I peeked out and felt a blast of icy wind hit my face from the northwest. It was blowing in off the glaciers in gusts to twenty-five knots,[3] and the air temperature was thirty-two degrees. I felt the hair rising on my arms and my jaw tighten to suppress a shiver. I was much more nervous than I had been during my first swim. I had greater expectations of myself now. I wanted to swim the first Antarctic mile, and I knew I would be very disappointed if I didn't succeed.

I stared across the icy water at Neko Harbor's beach and felt excitement building within me. Quickly, before I could lose my chance, I pulled off my sweat suit and shoes and stuck them in a corner of the ship, climbed down the gangway, sat on the platform, and dangled my feet in the water. Surprisingly, it didn't feel any colder than it had two days before. I didn't realize then that the nerves on my skin's surface had been damaged from the first swim. I didn't know that the nerves that signaled danger weren't firing.

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3. knots (näts) *n.* a rate of speed. One knot equals one nautical mile (6,076.12 feet) per hour.

I wasn't aware that my first line of defense was gone. I had no idea that prolonged exposure in thirty-two-degree water could cause permanent nerve and muscle damage. And I didn't know then that when an untrained person is immersed in water colder than forty degrees, their nerves are cooled down so they can't fire at the neuromuscular level. After only seven or eight minutes the person's body seizes up and [he or she] can't move. It was a good thing I didn't know any of this. All I knew was that I was ready. I took a deep breath, leaned back, and threw myself forward into the thirty-two-degree water.

When I hit the water, I went all the way under. I hadn't intended to do that; I hadn't wanted to immerse my head, which could overstimulate my vagus nerve[4] and cause my heart to stop beating. Dog-paddling as quickly as I could, I popped up in the water, gasping for air. I couldn't catch my breath. I was swimming with my head up, hyperventilating.[5] I kept spinning my arms, trying to get warm, but I couldn't get enough air. I felt like I had a corset tightening around my chest. I told myself to relax, take a deep breath, but I couldn't slow my breath. And I couldn't get enough air in. I tried again. My body wanted air, and it wanted it now. I had to override that reaction of hyperventilating. I had to concentrate on my breath, to press my chest out against the cold water and draw the icy air into my lungs.

My body resisted it. The air was too cold. My body didn't want to draw the cold air deep into my lungs and cool myself from the inside. It wanted to take short breaths so the cold air would be warmed in my mouth before it reached my lungs. I was fighting against myself.

I noticed my arms. They were bright red, and I felt like I was swimming through slush. My arms were thirty-two degrees, as cold as the sea. They were going numb, and so were my legs. I pulled my hands right under my chest so that I was swimming on the upper inches of the sea, trying to minimize my contact with the water. I was swimming fast and it was hard to get enough air. I began to notice that the cold was pressurizing my body like a giant tourniquet. It was squeezing the blood from the exterior part of my body and pushing it into the core. Everything felt tight. *Focus on your breath*, I told myself. *Slow it down. Let it fill your lungs. You're not going to be able to make it if you keep going at this rate.*

My arms were thirty-two degrees, as cold as the sea. They were going numb, and so were my legs.

It wasn't working. I was laboring for breath harder than on the test swim. I was in oxygen debt,[6] panting, gasping. My breath was inefficient, and the oxygen debt was compounding. In an attempt to create heat, I was spinning my arms wildly, faster than I'd ever

4. **vagus** (vāg´ əs) **nerve** *n.* either of a pair of nerves running from the brain to the heart that regulate the heartbeat.
5. **hyperventilating** *v.* breathing so rapidly or deeply as to cause dizziness or fainting.
6. **oxygen debt** *n.* an increased need for oxygen in the body brought on by intensive activity.

turned them over before. Laura later told me that I was swimming at a rate of ninety strokes per minute, thirty strokes per minute quicker than my normal rate. My body was demanding more oxygen, but I couldn't slow down. Not for a nanosecond. Or I would freeze up and the swim would be over.

An icy wave slapped my face: I choked and felt a wave of panic rise within me. My throat tightened. I tried to clear my throat and breathe. My breath didn't come out. I couldn't get enough air in to clear my throat. I glanced at the crew. They couldn't tell I was in trouble. If I stopped, Dan would jump in and pull me out. I still couldn't get a good breath. I thought of rolling on my back to give myself time to breathe, but I couldn't. It was too cold. I closed my mouth, overrode everything my body was telling me to do, held my breath, and gasped, coughed, cleared my windpipe, and relaxed just a little, just enough to let my guard down and catch another wave in the face. I choked again. I put my face down into the water, hoping this time I could slow my heart rate down. I held my face in the water for two strokes and told myself, *Relax, just turn your head and breathe.*

It was easier to breathe in a more horizontal position. I thought it might be helping. I drew in a deep breath and put my face down again. I knew I couldn't do this for long. I was losing too much heat through my face. The intensity of the cold was as sharp as broken glass. I'd thought that swimming across the Bering Strait[7] in thirty-eight-degree water had been tough, but there was a world of difference between thirty-eight degrees and thirty-two. In a few seconds, the cold pierced my skin and penetrated into my muscles. It felt like freezer burn, like touching wet fingers to frozen metal.

The intensity of the cold was as sharp as broken glass.

Finally I was able to gain control of my breath. I was inhaling and exhaling so deeply I could hear the breath moving in and out of my mouth even though I was wearing earplugs. I kept thinking about breathing, working on keeping it deep and even; that way I didn't have time to think about the cold.

My brain wasn't working as it normally did. It wasn't flowing freely from one idea to another—it was moving mechanically, as if my awareness came from somewhere deep inside my brain. Maybe it was because my body was being assaulted with so many sensations, too different and too complex to recognize. Or maybe it was because my blood and oxygen were going out to the working muscles. I didn't know.

For the next five or six minutes, I continued swimming, telling myself that I was doing well, telling myself that this was what I

7. **Bering Strait** (ber′ iŋ strāt) *n.* the body of water between Russia and Alaska, joining the Pacific and Arctic oceans.

had trained for. Then something clicked, as if my body had gained **equilibrium**. It had fully closed down the blood flow in my skin and fingers and toes. My arms and legs were as cold as the water, but I could feel the heat radiating deep within my torso and head, and this gave me confidence. I knew that my body was protecting my brain and vital organs. Staring through the clear, silver-blue water, I examined my fingers; they were red and swollen. They were different than when I'd been swimming in the Bering Strait, when they'd looked like the fingers of a dead person. They looked healthy, and I thought their swollenness would give me more surface area, more to pull with.

◀ **equilibrium** (ē´ kwi lib´ rē əm) *n.* state of balance

I smiled and looked up at the crew, who were in the Zodiacs on either side of me. Each of them was leaning forward, willing me ahead. Their faces were filled with tension. Gabriella, Barry, Dan, and Scott were leaning so far over the Zodiac's pontoon I felt as if they were swimming right beside me. I was sprinting faster than I ever had before, moving faster than the Zodiac, and I was getting fatigued quickly. The water was thicker than on the test swim, and it took more force to pull through on each stroke. My arms ached. I didn't feel right; I couldn't seem to get into any kind of a rhythm. Then I sensed that something was wrong.

We were heading to the left, toward some glaciers. This didn't make sense; we couldn't land there. It was too dangerous. The glaciers could calve[8] and kill us.

"Barry, where are we going?" I shouted, using air I needed for breathing.

He pointed out our direction—right toward the glaciers. I didn't understand. I didn't want to go that way. I wanted to aim for the beach. I was confused. I was moving my arms as fast as they would go, and it was taking all I had. From each moment to the next, I had to tell myself to keep going. The water felt so much colder than on the test swim. It had already worked its way deep into my muscles. My arms and legs were stiff. My strokes were short and choppy. But I kept going, telling myself to trust the crew and focus on the glaciers to watch the outcropping of rocks that was growing larger. I couldn't get into any kind of pace.

Abruptly the Zodiacs zagged to the right. I looked up and thought, *Wow, okay; we're heading for the beach now.* For a moment, I started to feel better. I was able to extend my reach farther, and I could see passengers from the *Orlova* walking along the snowbanks. In the distance, their clothes lost their color and they looked black, like giant penguins. I saw smaller black figures, too—real penguins nesting near the edge of the shore. For a few moments, I felt like I

8. calve (käv) *v.* give birth to young; used here to refer to the "birth" of a new ice mass when a piece of a glacier splits off.

was going to be okay, like I was going to make it in to shore, but then the Zodiacs abruptly turned farther to the right, and we were headed past the beach for another range of glaciers.

Finally, it occurred to me that the *Orlova* had anchored too close to shore for me to swim a mile, so Barry was adding distance by altering the course. And the ship's captain was on the bridge monitoring our course on his GPS[9] and radioing our Zodiacs, updating them on the distance we had traveled. One of the passengers, Mrs. Stokie, who was on the bridge with him, told me later, "The captain was watching you and he was shaking his head. He was an older man, and he had experienced everything. And now he was seeing something new. It was good for him. Still, I think he couldn't believe it."

We continued on right past the beach, toward more glaciers.

"How long have I been swimming?" I asked.

"Fifteen minutes," Barry said.

I had swum a little more than half a mile. I looked up at the shore. If I turned left, I could make it in. I could reach the shore. This struggle could be over. But I wouldn't complete the mile. I had swum farther two days before. But I was tired now, and this was so much harder. I just didn't feel right. I couldn't figure out what the problem was. I kept talking to myself, coaching myself to keep going. Then I felt it; it was the water pressure, and it was increasing on my back. It meant there was a strong current behind me. I looked at the glaciers onshore, using the fixed points to **gauge** how fast the current was flowing. It was flowing at over a knot. I wondered if I would have enough strength to fight it when we turned around and headed back for the beach. It would cut my speed by half and could cause me to lose heat more rapidly.

gauge ▶ (gāj) *v.* measure something's size, amount, extent or capacity

Barry and the crew in the Zodiacs couldn't feel what was happening. They had no idea we were moving into a risky area. If the current grew any stronger, it could cost us the swim. Barry motioned for me to swim past a peninsula and across a narrow channel. I lifted my head and pulled my hands directly under my chest, to gain more lift, so I could look across the bay and see if we had any other options for landing. There were no alternatives. This made me very uncomfortable. Chances were good that there would be a strong current flowing into or out of the narrow bay. And if we got caught in that current, all would be lost.

We started across the inlet, and within a moment I could feel that second current, slamming into our right side at two knots, pushing us into the inlet. Without any explanation, I spun around, put my head down, dug my arms into the water, and crabbed[10] into the current.

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9. **GPS** "Global Positioning System," referring here to a portable device that provides information about the bearer's location and speed.
10. **crabbed** *v.* moved sideways or diagonally.

I focused on repositioning myself so I could parallel shore again and head toward Neko Harbor. Barry knew I knew what I was doing. But the abrupt course change caught the Zodiac drivers by surprise. They scattered in different directions, trying to avoid ramming into each other and trying to catch up with me. The motor on the lead Zodiac on my left sputtered and stopped. The second Zodiac immediately pulled up beside me. I sprinted against the current.

"How long have I been swimming?"

"Twenty-one minutes," Barry said. He and all the crew were watching me intently, their faces filled with tension and concern.

I put my head down, and something suddenly clicked. Maybe it was because I knew shore was within reach, or maybe because I got a second wind; I don't know. But I was finally swimming strongly, stretching out and moving fluidly. My arms and legs were as cold as the sea, but I felt the heat within my head and contained in my torso and I thrilled to it, knowing my body had carried me to places no one else had been in only a bathing suit. I looked down into the water; it was a bright blue-gray and so clear that it appeared as if I were swimming through air. The viscosity of the water was different, too; it was thicker than any I had ever swum in. It felt like I was swimming through gelato. And I got more push out of each arm stroke than I ever had before. I looked at the crew. They were leaning so far over the pontoons, as if they were right there with me. I needed to let them know I was okay.

I lifted my head, took a big breath, and shouted, "Barry, I'm swimming to Antarctica!"

I saw the smiles, heard the cheers and laughs, and I felt their energy lift me. They were as thrilled as I was. I swam faster, extending my arms, pulling more strongly, reaching for the shores of Antarctica. Now I knew we were almost there.

The crew was shouting warnings about ice. I swerved around two icebergs. Some chunks looked sharp, but I was too tired to care. I swam into whatever was in my path. It hurt, but all I wanted now was to finish.

As we neared shore, I lifted my head and saw the other passengers from the *Orlova*, in their bright red and yellow hats and parkas, tromping down the snowbanks, spreading their feet and arms wide for balance, racing to the water's edge to meet us. I lifted my foot and waved and saw my crew break into bigger smiles.

I'm almost done, I thought. *I feel okay. I feel strong. I feel warm inside. My arms and legs are thirty-two degrees. But I feel good. I can stretch out my strokes and put my face in the water. Maybe I can go a little farther. Maybe I can see what more I can do. Maybe I can swim five or ten more minutes. Or maybe I should be happy with what I've*

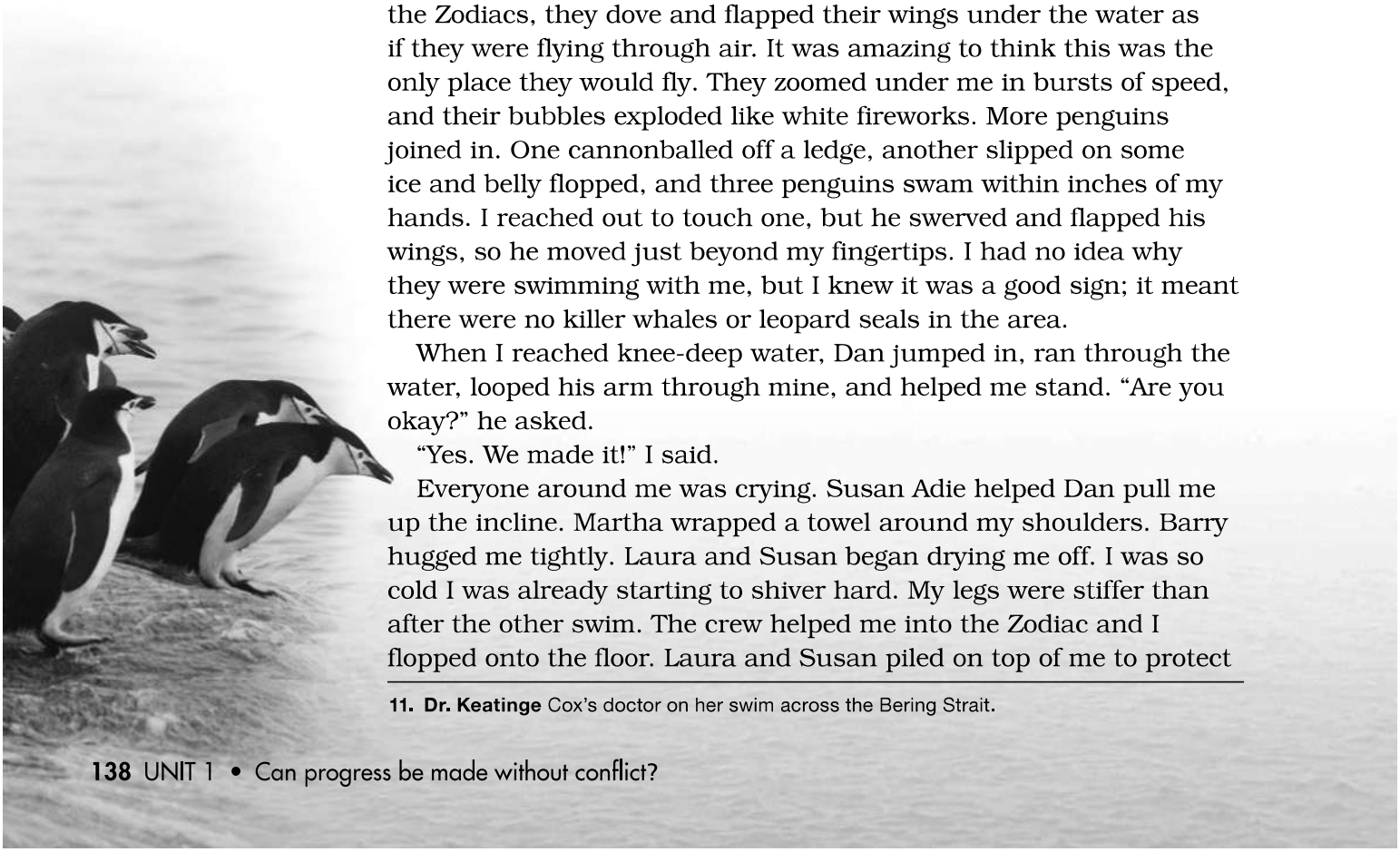
done. My skin is so cold I can't feel it, and when I stop swimming, I don't know how far my temperature's going to drop. I looked at my watch. Twenty-three minutes. I'd been in a minute longer than two days before. *How much difference would a minute make? I asked myself. How much difference is there between thirty-two-degree and thirty-three-degree water? Remember what Dr. Keatinge*[11] *said: once your temperature starts to drop, it will drop very fast. If you continue swimming, you're going to cool down even more. Remember how hard you shivered last time? Remember how much work it was? Remember how uncomfortable you were? This is the place where people make mistakes, when they're tired and cold and they push too far into the unknown. You could really hurt yourself. Finish now. You've done a good job. Be satisfied with what you've done. Go celebrate with your friends.*

Turning in toward shore, I again lifted my foot and waved it, and my friends waved back and cheered. One hundred yards from shore, I saw chinstrap penguins sliding headfirst, like tiny black toboggans, down a steep snowbank. When they reached the base of the hill, they used their bristly tails like brakes, sticking them into the snow to stop their momentum. They waddled across the beach at full tilt, holding their wings out at their sides for balance. Reaching the water, they dove in headfirst, then porpoised across it, clearing it by one or two feet with each surface dive. They tucked their wings back by their sides so they would be more aerodynamic. When they neared the Zodiacs, they dove and flapped their wings under the water as if they were flying through air. It was amazing to think this was the only place they would fly. They zoomed under me in bursts of speed, and their bubbles exploded like white fireworks. More penguins joined in. One cannonballed off a ledge, another slipped on some ice and belly flopped, and three penguins swam within inches of my hands. I reached out to touch one, but he swerved and flapped his wings, so he moved just beyond my fingertips. I had no idea why they were swimming with me, but I knew it was a good sign; it meant there were no killer whales or leopard seals in the area.

When I reached knee-deep water, Dan jumped in, ran through the water, looped his arm through mine, and helped me stand. "Are you okay?" he asked.

"Yes. We made it!" I said.

Everyone around me was crying. Susan Adie helped Dan pull me up the incline. Martha wrapped a towel around my shoulders. Barry hugged me tightly. Laura and Susan began drying me off. I was so cold I was already starting to shiver hard. My legs were stiffer than after the other swim. The crew helped me into the Zodiac and I flopped onto the floor. Laura and Susan piled on top of me to protect



11. Dr. Keatinge Cox's doctor on her swim across the Bering Strait.

me from the wind, and we pounded across the water, my head slamming into the Zodiac's floor. I managed to lift my head so that someone could place a hand under it to **buffer** the impact. I was so cold and stiff and shaking harder than before.

◀ **buffer** (buf′ ər) *v.* lessen a shock; cushion

When we reached the *Orlova*, it took me a minute to stand, to gain my balance, and as I climbed the ramp's steps I clung to the railing and pulled myself up, shaking hard. By the time I reached the top of the ramp, my teeth were chattering and I was breathing harder and faster than when I had been swimming. I didn't like being so cold. I didn't like my body having to work so hard. My temperature had dropped to 95.5 degrees, and I couldn't control my shaking. I just let go, and my body bounced up and down with shakes and shivers.

Quickly Martha and Dan and the three doctors huddled around me like emperor penguins, and their combined comfort and body heat began to warm me. It seemed as if I would never stop shaking, and I was completely exhausted. Within half an hour my shivering had subsided to small body shudders. Once I was able to stand and maintain my balance, the doctors helped me pull on a special top and pants that had been designed by a friend. She had sewn pockets under the arms, in the groin area, and into a scarf and had placed chemical packs that emitted heat inside the pockets. Their placement in the clothing warmed the major blood-flow areas of my body so that I was heated from the inside out. It was effective, and within an hour my temperature was back to normal.

That night we celebrated with everyone aboard the *Orlova*. I had swum the first Antarctic mile—a distance of 1.06 miles, in fact—in thirty-two-degree water in twenty-five minutes. I had been able to do what had seemed impossible because I'd had a crew who believed in me and in what we as human beings were capable of. It was a great dream, swimming to Antarctica.

ABOUT THE AUTHOR

Lynne Cox (b.1957)

Raised in California, Lynne Cox started breaking swimming records when she was young. At age fourteen, she swam twenty-six miles from Catalina Island to the California coast. The next year, she broke the men's and the women's records swimming the English Channel.

Cox's ability to swim so well is due in part to her natural build. She has a high percentage of body fat, evenly distributed around her body. This fat helps her float and provides insulation. Her unique body has allowed her to swim in waters ranging from the Bering Strait to Antarctica. Today, Lynne Cox stands as the most successful cold-water long-distance swimmer ever.

Close Reading Activities

READ

Comprehension

Reread all or part of the text to help you answer the following questions.

1. What is Cox's goal in this swim?
2. What physical challenges does Cox face when she starts her swim?
3. What changes for Cox after she shifts her breathing strategy?
4. What is the outcome of Cox's attempt?

Research: Clarify Details This memoir may include references to concepts that are unfamiliar to you. Choose at least one of these concepts and briefly research it. Then, write a paragraph in which you explain how the information you learned helps you better understand an aspect of the text.

Summarize Write an objective summary of the text, one that is free of opinion or evaluation.

Language Study

Selection Vocabulary: Technical Terms The following phrases appear in the memoir. Define each boldfaced word as it is used in the text. Then, identify a technical meaning for each word.

- gained **equilibrium**
- **gauge** how fast
- **buffer** the impact

Literary Analysis

Reread the identified passage. Then, respond to the questions that follow.

Focus Passage *(pp. 137–138)*
The crew was shouting … *your friends.*

Key Ideas and Details

1. **(a)** What does the crew warn Cox about? **(b)** How does Cox respond? **(c) Interpret:** What does Cox's response show about her character?
2. **(a)** How does Cox describe the passengers from the *Orlova?* **(b) Interpret:** How does this description affect the mood of her **account**?

Craft and Structure

3. **(a)** Identify two examples of repeated grammatical patterns in the italicized sentences. **(b) Connect:** What does her use of parallel structure reveal about Cox's thought process?

Integration of Knowledge and Ideas

4. **(a)** What types of information appear in the sentences beginning with "Remember"? **(b) Interpret:** What do these sentences help you **discern** about Cox's attitude toward her goals? Explain.

Author's Perspective

An **author's perspective** includes the judgments, attitudes, and experiences he or she brings to the subject. Reread the excerpt and note details that suggest Cox's perspective.

1. **(a)** What potential danger does Dr. Block **anticipate**? **(b)** How do the doctor's precautionary steps affect Cox's thinking? **(c)** What does Cox's reaction reveal about her perspective?
2. **Perseverance: (a)** List two ways in which Cox's story would be different if told by a reporter. **(b)** How might such a change affect the presentation of Cox's determination?