

Crucible at Kronshtadt
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The Gulf of Finland is one of those places on earth where the sky and sea coalesce so perfectly you disbelieve that you're still actually on earth and feel transported instead to an aqueous, cloud-draped drizzly planet whose primary elements are those that create water in all its phases: frozen, liquid, vapor. The color palette in the Gulf partakes of the gray-to-silver spectrum. Veils of white often shroud the band where sea and sky meet. If it is a Tuesday morning and you are skiffing across the whitecaps in a Soviet-era aquabus, as I was last June, droplets stream in thin rivulets down the windows of the closed cabin, and everything beyond the glass washes together in a sea splash miasma that has more to do with a submarine ride to Kronshtadt than a plodding but routine commuter transport out of Saint Petersburg.

The Gulf of Finland makes you doubt sunshine. The shore you've sailed from quickly evaporates behind you. Never mind that it is a celebrated shore in

a storied city full of priceless Russian and European art, time-tested monuments, grand cathedrals, famous battle sites and the prison where Dostoevsky languished. The morning I made the trip, we chugged out of Neva Bay in full summer sun, but the Gulf of Finland, reliably swathed in mist, quickly swallowed us up. No matter what might be happening back in Saint Petersburg—revolution, bombardment, public executions, siege warfare, Shostakovich composing the Leningrad Symphony, Rasputin drowning in a canal—this was happening 30 nautical miles west of there: Fog, rain, wind. Our creaky old aquabus had been making the passage to Kronshtadt long enough practically to groove a furrow through the moody Baltic chop. The horizon was not something I looked for.

I was the only person aboard with a video camera.

Everyone else seemed to have a targeted purpose for this trip: returning home after the nightshift in Saint Petersburg, going to a day job on the island, couriers making a delivery, messengers riding over to pick something up.

Not that I lacked a targeted purpose myself... I was headed to the Saint Petersburg Dam, a state of the art specimen of contemporary technology built to hold back sea swells in the Gulf. Saint Petersburg had suffered 300 years of flooding, much of it the result of seiche waves, surface oscillations that swayed back and forth in long, standing rollers like water sloshed slowly to and fro in a bath tub. I wanted to see the cement and steel that had once and for all held back this environmental foe.

The Dam was a 25.4 kilometer structure that used Kotlin Island, where the fortress city of Kronshtadt stood, as an anchoring component in its flood barrier. It consisted of a 6.5 meter high earthen embankment that bisected the Gulf, from

north to south. Fifty-five million cubic yards of stone and soil had been hauled in to strengthen its foundation. This was buttressed with nearly three million cubic yards of reinforced cement. Running atop the Dam was a six-lane highway that linked up to the Saint Petersburg ring road. Two navigation channels on either side of Kronshtadt—one 300 meters wide, the other 100—made ship traffic possible between the Gulf and Neva Bay. These navigation channels were protected by huge steel gates, curved like gulls' wings and kept in dry dock. In the event of high water in the Baltic they could be floated into place and then sealed. With these gates shut, the dam made of Neva Bay a closed reservoir.

This was both a blessing and a curse, like everything water-related around Saint Petersburg. A bay is not a reservoir, for one thing—and a closed system was an environmental calamity in-the-making. The Neva River discharged the flow of a 300,000 kilometer watershed (about the size of the Chicago River.) It was heavily tainted with agri-run off and paper mill chemicals from upstream sources, 28% of it left untreated. The hydrology in the area relied on currents in the Gulf of Finland to wash pollutants out to sea. With its gates closed, the Dam held back seiche waves that could deluge the city, true, but it also prevented any kind of natural mixing or exchange between the fresh waters of Neva Bay and the brackish ones of the Gulf. Already Bay-side biomes had degraded. The nutrient load entering the Gulf via the Neva River had a tendency to stagnate. This caused toxic blue-green algae to proliferate. Populations of filtering bivalves were in decline. So the Saint Petersburg Dam, for all its grandeur, innovation and justifiable acclaim, came pre-loaded with ecological controversy.

The windows in this aquabus had steamed up, and I cleared a small patch to look out. I had hoped to catch a glimpse of the Dam's stark and sleek white

modules as we neared Kronshtadt. I had imagined that even from miles away its span would gleam impressively in the morning sun.

The morning sun. Ha ha.

Drizzly fog enveloped our aquabus so completely it was easy to believe there was no sun, no shore, no land out there anywhere at all. Navigation today was strictly by instruments. If instruments were to fail faith and improvisation might have to take hold. I leaned my head against the window and considered my boat mates: the babushka in a headscarf, the middle age man with his belongings tidily stacked in a damp shopping bag tucked between his feet, the 20-something woman consulting her smartphone whose pony tail bobbed with the rocking of the boat. A pony tail was not something I expected on the way to Kronshtadt—but why not? I had travelled in Russia long enough to rid myself of the preconceptions westerners bring to this formerly secretive and closed society. If pony tails had yet to fall for me, well why not now, why not here, bouncing on the frothy Gulf?

She fiddled with a couple apps on her phone. She was the only person aboard this aquabus likely to know a little English, should I have a sudden urgent need to converse. We were headed to the sticks, Russian-style—beyond the tourist zone, beyond the cosmopolitan mix, beyond a place where anyone cared to engage with an American. What Boone, Iowa was to Disneyland back in the States, for instance, Kronshtadt was to the Hermitage back in Saint Petersburg. Boone, Iowa had hog confinements; its emphasis was on pork. Kronshtadt had the Baltic Fleet; its ships were armored with naval steel. If Kronshtadt bore any resemblance to Boone, Iowa at all it was in this one thing: Neither place embraced tourists.

Kronshtadt took things a step further. It was not about embracing.

This was the Russia where people sized you up fast and then just as quickly gave you their backs, a stiff social barrier every bit as foreboding as an embankment or a flood wall. Throughout history Kronshtadt had served as a stronghold and first line of defense against invaders from the west—the French, the Livonians, the British, the Nazis. After World War II it was designated a City of Military Glory for the “courage, endurance and heroism” exhibited there. That it could fulfill this role once more for the Motherland, not against a human invasion but a natural one, was significant. That an environmental enemy was the more pernicious was obvious: Whenever water and people mixed it up in a battle for domain, people usually won out—but at considerable cost: financial, material and ecological. These victories were of the pyrrhic variety—from the Mississippi (rerouted at Atchafalaya) to Dauphin Island, Alabama (rebuilding of sand dunes after numerous hurricanes); from the Grand Coulee Dam on the Columbia River (decimation of salmon population, the “Ceremony of Tears”) to the Dismal Swamp Canal at Chesapeake Bay.

In keeping with our notorious predilection for situating habitats in uninhabitable areas, Saint Petersburg was built on a shallow estuary. Of course it became the new capitol of Russia under Peter the Great, who of course ordered sublime architectural wonders to be constructed in the flood-plain and then of course filled those flood-prone wonders with rare art. Each time the Gulf of Finland came ashore and swamped the place, all this treasure had to be rescued. The Gulf had been coming ashore for millennia. It was an uncontainable wet beast, an unsustainably destructive neighbor for any city.

Serfs and slaves drove tree trunks down into the marshy fens and bogs. Massive granite blocks were then shipped from Finland. Prisoners of war from a victory over Sweden moved those blocks into place atop the tree trunks. Ten thousand laborers perished each month. Six rivers coursed through what would become the city proper at that time. In a move having as much to do with ecological sleight of hand as it did with mathematics, the six rivers were consolidated and reduced to three—the Neva, the Moika, the Fontanka. Saint Petersburg was inlaid with an elaborate network of canals. More granite, more deaths. The canals diverted river flow and controlled the rush of water to Neva Bay. Half of the bedrock of Finland served as causeways through which the rivers coursed. Palaces and cathedrals began to line these scenic waterways, and a jewel of a sparkling city took shape.

Saint Petersburg had been slowly sinking ever since, sinking beneath all that stone, the tree trunks and the granite sinking down into the natural morass below. No matter what a beloved tsar had once decreed, no matter how many slaves had toiled and died, or how much rock got brought in to shore up this mushy sponge of an estuary, the land (so-called) underneath Saint Petersburg knew that it was not land at all. It was a mire. Through regimes and revolutions and untold millions of rubles this never changed. Such was the formidable aspect of an environmental adversary that it could wait out the Russians. Even winter, a season that had always conferred such an advantage here against invasion, got nullified. No matter how biting the cold, no matter how much money was thrown at it, nature remained unmoved, unimpressed, unaltered.

The captain of the aquabus cut the engines for the No Wake Zone, and ponytail pocketed her smartphone. We rocked toward port. The gauzy mist

parted enough for me to see the rugged profile of a warship silhouetted against an ice-white sky, its gun barrels slanting upward. A few blocks beyond the docks the broad high dome of the Naval Cathedral of St. Nicholas dominated the tree line. It was an imposing edifice of oxidized copper and braided gold leaf, a stronghold all its own. The cross atop the dome was gold-encrusted and prominent, no doubt the first object visible to all incoming ships, perhaps even more noticeable than a guiding lighthouse. The Naval Cathedral accessorized well with the fortification theme of a place whose primary mission was to defend and repel. Kronshtadt's priorities had always been pretty simple. It had the isolation of a prison colony without ever having been one. Left to its own devices, alone in the mist, alone with the Gulf of Finland, it formed the nexus of three beguiling forces—God, war and water—almost too much for a small town like this to bear.

Just beyond the marina was a streetside depot where several city buses stood lined up. We filed off the boat, and I walked with the others through the drear. Most faces betrayed a certain hard set of the jaw, a nascent stoicism rigidified in the features, and I felt something ossifying into place like that for me. This harbor was frozen on average 160 days each year between December and April. Nobody worried about seiche waves then. The Gulf lay flat and tame beneath the weight of ice, as if hibernating. Until the six-lane highway atop the Dam got built, Kronshtadt was sometimes accessible in February only via ice-road trucking—or on cross country skis. Winter kept the place pretty well cloistered.

The driver of the first bus I came to was leaning on the front bumper, taking a break. He cupped the coal of his cigarette against the drizzle and

squinted through its smoke at me. I handed him the piece of paper on which I'd written "Saint Petersburg Dam" in Cyrillic. Traffic streamed steadily past the bus depot. The driver crushed his cigarette out on the wet pavement and walked to where he could see the cars splashing past. After a moment he stopped someone in a little green Mazda. He pointed at me, gestured somewhat in the direction of my video camera, and spoke familiarly to the driver, maybe a guy he knew.

This was often how it got done in Russia: someone knew someone, who showed up in a car. Other than at the airport, there were no taxi stands, not even around the hotels. When I needed to get to the Mariinsky Opera the other night, I told the bartender at the hotel. He escorted me out to the street, had me stand on the sidewalk while he stopped traffic, and eventually a pleasant fellow from Tajikistan agreed to drive me there. It was all very ad hoc.

I settled into the back of the little green Mazda, and we sped off.

We drove the northern arm of the Dam first, the longest span and the last portion completed. Although the project had begun in 1976 under Soviet leadership, it stalled during the collapse of the U.S.S.R. and didn't get restarted in earnest until Vladimir Putin came to power in 2000. He saw its completion in 2011, just in time for the gull wing gates to swing into place and hold back a storm swell that might have ended up costing Saint Petersburg billions of rubles in damages if it had happened the year before. I settled back in the little green Mazda and considered this colossus.

The Dam resembled a heavily fortified bridge, and if you didn't know it was a flood barrier you might not guess. For 14 kilometers no one could exit this highway and no one could enter. The driver of the little green Mazda indulged

himself a bit, changing lanes in graceful, luxurious arcs, occasionally darting between slower vehicles. The tires hissed against the smooth, wet pavement. A popular racing video game actually utilized this northern span for one of its competitive courses, and I had no problem at all imagining a dozen sports cars jockeying for position side by side in the lanes, swerving into each other, spinning out and flying off the roadway into the gray and obliterating Gulf waters below. My trip across it was Maserati-worthy. There was a seamless, high velocity feel.

The Dam stood in stark defiance of everything we knew was impossible when it came to water. Guaranteed to protect against a 100-year flood, it was the safest place on earth. I clutched the armrest and leaned forward. The safest place on earth didn't even look like earth, but a cloud-swept speedway melting into a soft mistiness at the edge of the world.

Four sluice gates were built into this northern span, each of them guarded here on top by a rampart-like barricade of cement. The driver pulled over in a service turnout near the first sluice gate so that I could shoot some video.

The sky was an ocean all its own, its vaguely delineated cloud shapes like wavelets skimming across the surface. These met an immense sea to the west that paradoxically resembled a sky with all the fog and low-hanging clouds. Dramatic veils draped down out of distant storm squalls like the trailing tendrils of sea creatures drifting through the murk. Every breath I drew came heavy with humidity and invited my lungs to remember a time when they weren't lungs at all but gills able to extract oxygen from water. Droplets clung to my hair, my hair clung to my face. Eventually my clothes felt pasted to my skin. Before long the sweater I had put on that morning was saturated and drooped from my

shoulders. Water invaded everything. My Levi's hung heavily from my hips and refused to flex at the knees as I walked back to the little green Mazda. The wet denim worked against me. It pulled and dragged at my skin. An umbrella would have been irrelevant out here and ridiculous.

I weighed more in Kronshtadt at that moment than I had weighed when I boarded the aquabus in Saint Petersburg. Water was hitching a ride.

We drove the elegant roadway for an hour, charging back and forth, north to south. If I'd had anything to celebrate I might have felt like a conquering hero marking a major victory high atop the walls of a castle keep. This wasn't a victory, though, and there were no heroics. The wind and rain so limited my visibility I knew none of the video footage would come out. My heart sank when I previewed some of it, the frames watery and indistinct. Where the sky should be I saw a silvery panorama that appeared to be dissolving. Looking on, I almost wanted to shake like a dog does after a bath. Even when I thought I had set up a beautiful shot—and a clear one, to boot—a gust apparently blew through, and spattered the lens with rain. Water infused everything out there.

On the Dam's nether arm, the span south of Kronshtadt, the highway dropped 28 meters beneath the level of the water into a tunnel 12 kilometers long and six-lanes wide that lay below the sediment bed of the Gulf. The tunnel ran under the broader of the two navigation channels. Up above, at the water's surface, ships could steam into Neva Bay at will without waiting for a drawbridge or a lift-gate and then steam back out. Down below, beneath the seafloor, Omega chambers had been painstakingly locked into place one after the other to form the tunnel through which vehicular traffic coursed nonstop.

Naturally, the technology during the time of Peter the Great was different than now, not to mention the labor pool (no serfs or slaves), but when it came to dealing with water the thought process was the same: Block, redirect, channel, impede. The Dam made sense. Everything about it was orderly, logical, well planned. A technological bulwark, it bore the stamp of human ingenuity.

Surrounded by a fog that appeared to be shielding the sluice gates on all sides, lest there be a breach, the Dam faced off against a brooding, restless, shape-shifting water empire out in the Gulf that was neither subject to reason nor governed by it. No matter the century or what the status of earthbound engineering, logic and planning could not touch it. Seeing the two of them together, the water empire and the Dam, drove this point home. One was constructed, fixed, sturdily entrenched, precise—at once aesthetically pleasing and invaluablely useful. The other was inexact and raw, loose and free, not a thing at all but a force. It had always found a way to prevail. Even a City of Military Glory like Kronshtadt had no answer for it ultimately.

Of course, everything was holding steady today. Today the Gulf of Finland was on its best behavior, pretending that it was a house-broken kind of mind-your-manners body of water, docile like Lake Mead.

But something in its ability to turn the sea into sky and then the sky into a hovering opaque world above us made me wary about what might be incubating out there, biding its time, gathering strength, using the place as a crucible for tempering itself, and then waiting, holding back until something materialized, delaying, delaying, casually casting about for an opening. Then it would do what water always did when it found one. It would surge on through.

Rain washed down the sides of the Mazda, and we exited the Dam's million ruble highway to wend our way along the more mundane, tree-lined streets of Kronshtadt back toward the military harbor and the waiting aquabus. My driver slowed before a broad plaza of neatly laid stone, then pulled over to the curb and put on the parking brake. I rubbed condensation from the window and peered out. Guarded on two sides by trim canals and presiding over the plaza was the Naval Cathedral, a thickset, meticulously-cut structure with the frightful density of solid block. Its well-measured corners—squared, true and perfectly aligned—exuded a type of calculus and confidence that told of something that expected to outlast the Gulf of Finland.

My driver pointed through the windshield at it and toward my video camera.

"I should shoot some footage?" I held my camera up.

"Da," he said, looking into the rain. The sky framed the Naval Cathedral on one side, gray and somber. His profile framed it on the other--firm, determined lines from brow to chin that allowed me to read an expression of satisfied pride on his face. He gazed upon Kronshtadt's crowning achievement, and he nodded. "Da."

It was touching.

He had taken me to the Dam and probably even raised an eyebrow once or twice as to why I, a tourist from the west, would wish to see it, knowing maybe there wouldn't be very much to see. *Would I come away disappointed? Would it be a waste of time? Besides which— who comes to Russia to look at a dam?* Now he wanted to make sure I spent some quality time with his town's truly

glorious claim to fame, a monument every bit as worthy and eye-catching in its own right as anything in Saint Petersburg.

Your average seed corn cap-wearing good ol' boy driving a pick-up truck back in Boone, Iowa might lift an eyebrow, too, if a middle aged Russian woman who spoke little English wanted to visit the county grain elevator, for instance, and shoot an hour's worth of inconsequential video footage there. He would puzzle over her request but politely oblige. After the grain elevator, though, after the excursion with nothing much to see, he would drive her down Mamie Eisenhower Avenue, Boone's sole touristy strip, and he'd pull up beside Goldie's Diner, whose deep-fried tenderloins had been voted best in the state since 2009.

Kronshtadt had God.

Boone, Iowa pork.

Not that the two were mutually exclusive...

But pork never prompted exaltation, never inspired the building of a cathedral or stirred anyone to such heights, never narrated its splendor in stained glass windows or demanded curlicue flourishes of gold leaf.

Kronshtadt had God *plus war plus* water. It had been saddled with sobering obligations and did not ultimately resemble Boone, Iowa at all.

A city like Kronshtadt was always walling something in, walling something out, hoisting stone, hauling in cement, forging steel, installing ramparts, commanding natural resources to hold restless forces at bay and keeping watch, always vigilant.

I stood in the rain and zoomed my camera in for a tight shot. Gold anchors, gold oars, gold life preservers. This lacy design formed a necklace along the crest of the cathedral's broad dome, a filigree of color, light and

nautical shapes that drew my lens upward to the heavens. My last shot ended there in a white ocean, a blur of fog and rain where the sky must surely be.