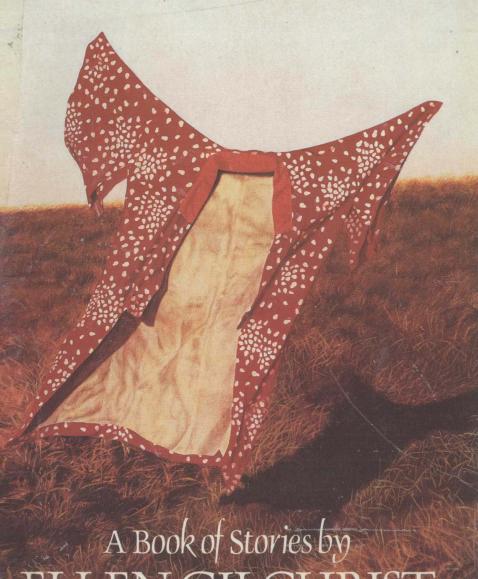
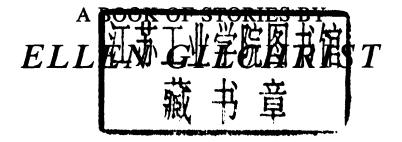
LIGHT CAN BE BOTH WAVE AND PARTICLE



ELLENGILCHRIST

Light Can Be Both Wave and Particle





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For Dooley and Bunky, first line of defense.

"Not that anything I wrote about them is untrue, far from it. Yet when I wrote, the full facts were not at my disposal. The picture I drew was a provisional one, like the picture of a lost civilization deduced from a few fragmented vases, an inscribed tablet, an amulet, some human bones, a gold smiling death mask."

From Clea, by Lawrence Durrell

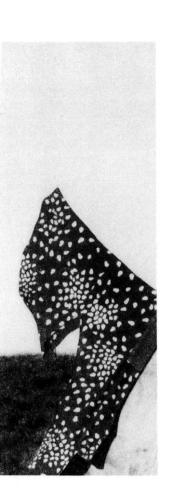
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The Tree Fort

I HAVE BEEN HAUNTED lately by memories of Seymour, Indiana. A story in a magazine set me off and set me dreaming, of my brother, Dudley, and the fort, and the year he lost the eye. A fort made out of Christmas trees, piled four trees high, on the flat ground where the yard ran down to meet the alley. Dudley's pyramid, a memorial to the light in his left eye.

The first time I saw the fort was on a Saturday morning in January. I was coming home from my ballet lesson, walking up the alley from Sycamore Street, dragging my ballet shoes behind me by the laces, on the lookout for anything valuable anyone might have thrown away. I had found a hand-painted card shuffler in that alley once. It could happen again at any time.

I was almost home when I saw the activity in the yard. There were three boys, Dudley and Miles Pennington and Ronnie Breiner. They were standing beside a pile of Christmas trees. Dudley had his hands on his hips. He was wearing his jodhpurs and his hunting vest. His hair was as short as a marine recruit's. My father kept it

cut that way to save him from vanity. Dudley stood in the middle of his friends, a young Douglas MacArthur, mulling over his problem. As I drew nearer I could see the Clifford twins coming down the side yard dragging another tree. It was Epiphany, the sixth of January, the day good Christians throw their trees away. What was Dudley up to and how had he once again hit upon an idea so wonderful, so startling in its power and simplicity, that it was certain to ruin my life for weeks?

"What are you doing?" I called out, as I crossed the victory garden and made for the pile of trees. "What's everyone doing?"

"We're building a fort," Dudley said. "Go in the house and get us some water and bring it out here if you want to help."

"Get your own hell damn water," I said, and went on by the trees. "Why are you building a fort?"

"To have a club. We're going to have a war with Billy **Bob Robbins.**"

"How will we stack them up?" Ronnie Breiner asked. "I don't see what's going to keep them up."

"Just get them," Dudley answered. He was slouched over on one hip, wearing all seven of his lanyards. "We'll get them up. Get us some water, Shorty, if you want to help." He always called me Shorty. He got the idea from a gangster movie. I ignored him and went on into the house to put my ballet things away. From around the corner on the other side I could see Wayne Shorter and his friends dragging two more trees into the yard. It was eleven-thirty on a Saturday morning, right in the middle of a world war, and once again Dudley had found a way to ruin my life.

By noon they had a circle of trees piled four trees high and held together with clothes line and two-by-fours. Inside the circle was an enclosed space about as large as a bedroom. They filled that with old sleeping bags and a camouflage tarpaulin. I sat on the back steps and watched the activity. I was eating a sandwich and sucking a baby bottle filled with chocolate milk. My mother had a new baby and I could borrow his baby bottles anytime I wanted to and use them to suck chocolate milk. The milk picked up a wonderful flavor as it passed through the rubber nipple. I bit off a small piece so the milk would flow more easily. I knew they could see me drinking out of the bottle but I didn't care. It never occurred to me to stop doing something just because someone was looking at me.

They were dividing up into teams now. One team to hold the fort and the other to attack. Dudley's team would defend the fort. I see him now, standing on a ladder, sighting down across his arm with a wooden rifle, both eyes still in perfect working order, mowing down the invaders, then charging out in the forefront of his men, shooting as he ran. Coming to meet him from beside the French doors were Billy Bob and his horde of scrawny kids from the new development on the other side of Calvin Boulevard. I sucked my bottle. The January sun beat down on Seymour, Indiana. Inside my little plaid skirt and sweater my hot sweaty little body sucked down the rubber-flavored chocolate milk and watched the battle of the fort proceed.

When my father came home from the Air Corps base that afternoon he immediately took over rebuilding the fort. He made Dudley and Wayne take down all the twoby-fours and stack them up in a better configuration. "Those goddamn trees could fall on someone and hurt them," he said. "You boys are going to get me sued." Then Dudley and Wayne had to labor until dark shoring up the fort and making it safe.

He did not, however, seem to mind that every dead Christmas tree on Calvin Boulevard was piled up in our back yard killing the grass, and when mother mentioned it he told her to calm down and leave the boys alone. There's plenty of grass in the world, he told her, the grass can take care of itself. I had decided to stay out of it. I didn't even tell her that Billy Bob's regiment had trampled her roses as they pulled their tanks up from the alley for a surprise attack.

That night, tired as he was and with his hands red and raw from laboring on the fort in the January weather, Dudley made the first of the rubber guns. He fashioned it from pine, although later the guns would be made of finer woods, cypress and maple and persimmon and even walnut. He made the stock by whittling down a split two-by-four and sanding it for an hour. He was just beginning on the trigger mechanism when mother made him turn out the lights. At that time I was in the habit of sleeping in his room when I got scared. I would pay him three cents a night to sleep in his extra bed or five cents to sleep curled up on the foot of his bed. I was deathly afraid of the dark in those years. I feared the insides of closets and the space beneath my cherry fourposter bed and the goblins that get you if you don't watch out and angels coming for to carry you home and vampires and mummies and the holy ghost. I would wake from dreams and go running into my parents'

room in the middle of the night when I slept alone. I was pathologically, deathly afraid of the dark, of night and shadow and the wages of sin. So I was sleeping in Dudley's extra bed when he turned the light back on and went back to work on the rubber gun. He added a carved handle and a trigger made out of a wooden clothespin and then dug around in a dresser drawer for a rubber band and used it to demonstrate for me how the trigger would release the band. "Of course, we'll have to make better things to shoot," he said. "We'll have to cut up old inner tubes."

"Will you make me one?" I asked. I felt very close to Dudley that night, watching him at his desk, risking a whipping to finish his work. He was brave, braver than I was in every way, and I loved him, with his thin face and his long thin arms and high intelligence quotient and his ability to stand up to and get along with our father. I had seen our father pull off his belt and beat Dudley in front of his friends and Dudley would never say a word. He took punishment like a man. He worked like a man. He was a man. I was safe in his room. No mummy or vampire would ever come in there. It was worth five cents to get a night's sleep without having to worry about the closets or underneath the beds.

"I might," he said. "If I have time."

"Will I get to be in the fort?"

"I doubt it, Shorty. You're a girl. Girls aren't supposed to be in everything."

"I'll make one of my own, then. Can I have part of the trees?" He shook his head and went back to work, enlarging the place on the stock where the clothespin would fit and lock in.

"I'm getting a diamond ring," I said and slipped back

down beneath the covers. I liked to keep my neck covered at all times when I was asleep. Even in Dudley's room you couldn't be too careful about vampires. "When Momma dies she's leaving me her ring."

"Go to sleep," he said, and held the gun up to the light to inspect it. "You're making too much noise. You're going to wake them up."

The fort became a permanent fixture in the back yard. The fort stayed. Winter progressed into spring. The Christmas trees turned brown and brittle and lost their needles and the needles were swept up and used to mulch the rose garden, which had been rebuilt by Dudley and his gang. All our roses bloomed that spring, American Beauties and Rosa Damascena, which dates back to the Crusades, and the dark red Henry Nevard and Rosa Alba, the white rose of York, and Persian Yellow and Fruehling's Gold and Maiden's Blush, our cutting of which had come to Indiana from Glen Allen, Mississippi, hand-delivered by our cousin, Laualee, who was a lieutenant in the navy.

The fort grew, taking up all the room between the back porch and the rose garden and the alley. The cedar and pine needles were reinforced by boards donated by boys from around the neighborhood. A tower was added and a permanent scaling ladder. Paths were worn along the sides of the house as invading forces charged down the hill. Later, the spring rains turned the paths into gullies.

The manufacture of rubber guns proceeded apace. The strips of rubber were of varying sizes, as Dudley experimented with different types of inner tubes. He would sit for hours in the evenings, sanding and polishing the stocks and handles, cutting old inner tubes into strips, sewing holsters from scraps of unbleached domestic and suiting samples.

March turned into April and April into May. The allies were winning the war in Europe. The clock in my second-grade classroom was the cruelest clock in the world. The days until the end of the school year seemed to last forever. At last my trunk was brought up from the basement and aired out and I began to fill it with Tshirts and socks and shorts and flashlight batteries. In June I was going to camp. I loved camp. I adored camp. I would have liked to go to camp all year. At camp I was the leader. At camp I had people sleeping around me every night. Without paying a single cent I had a whole room full of people to sleep with.

This year I was going to a new camp in Columbus, Ohio. Columbus Girls' Camp. A letter came with a sticker to put on my suitcase and another one for my trunk. I forgot about the fort. Who needed the hell damn fort? I was going off to Columbus Girls' Camp to row boats and swim in races and make lanyards and build campfires and sleep in a cabin with people all around me, far from the vampires and mummies and holy ghosts who inhabit real houses where families live.

So I was not there when he lost the eye. "The eye is a tiny balloon that grows at the front of the brain." So it said in a book I took home from the library. "The cells at the back are tuned to be sensitive to light, enabling us to see the world around us. The eye is so delicate that it has to be protected by a bony socket and eyelids to cover the window and a flow of tears to keep the window clean."

On the day he lost the eye, Dudley and Billy Bob and Miles and Ronnie were attacking as a tank corps. Wayne and Sam were inside the fort. The other boys were pushing wagons loaded with staves down from the back porch. There was an incline of about forty degrees, plenty good for accelerating wagon-tanks. Dudley was standing up in a wagon holding a loaded rubber gun and Miles was pushing him. Billy Bob was beside him in the other wagon. It was the tenth or twelfth or twentieth time they had run the wagons down the hill toward the fort. They were getting better and better at guiding them, but somehow or other this time Billy Bob's wagon ran into the side of Dudley's wagon and in the melee Dudley's rubber gun backfired and the thin band of old inner tube managed to elude the bony socket and the eyelid and dealt a blow to Dudley's eye. There goes my eye, I guess he said. It's a good thing it's on the left side. Anyway, there was blood, lots of blood. The German housekeeper held Dudley in her arms while Momma and Sam and Wayne ran for Doctor Shorter, and later that night, when the bleeding wouldn't stop, they took him to the doctors at the Air Corps base and the next day the Air Corps flew him to Memphis to an eye surgeon.

It took all summer to heal. It was September before Dudley came home with his eye still swathed in bandages.

When the bandages came off he could see light and dark and distinguish shapes, but nothing more. There were blood clots behind the iris, and the doctors were afraid to operate for fear it would set up sympathetic problems with the good eye. That's all we talked about from then on. Dudley's good eye. How to protect his good eye. How never to take chances with his good eye. How his good eye was doing. Thank God for his good eye. Pray for his good eye.

While Dudley was in Memphis the fort had fallen into disrepair. Children from all over the neighborhood came and inspected it and told each other about the tank battle. An aura of mystery and danger hung around the circle of trees, timeless, Druidic, threatening. I never went near the place. I knew bad karma when I felt it. The sleeping bags were in there rotting away but I didn't go in and drag them out. By the time Mother got home from Memphis they were filled with ants and had to be pitched out for the garbagemen.

Dudley had a strange relationship with the fort after he returned from Memphis. I remember him standing there with his big black patch on his eye, wearing his brown and white tweed knickers, his hands on his hips, looking at the fort, not defeated or scared or really puzzled even. Just standing there looking it over.

Then one day the following spring, after D-Day, when the pressure was letting up all over the United States and men could go back to ruining the lives of their children, my father looked up over his breakfast oatmeal and said, "Son, today we are going to have to get rid of those trees. Your mother wants the grass to grow back before the owners of this house return."

"They will think we are white trash," my mother added. She was poaching eggs in a black skillet, a little blue and white apron over her blue shirtwaist dress. I was sitting in the corner of the breakfast nook pulling on my hair to make it grow.