

“What Keeps Us Warm?”
Rev. Gary Kowalski, UCOT 12/4/22

Just after dusk at this time of year, in early December, as the days shorten and the temperatures fall, you may witness one of the marvels of nature: a murmuration of starlings or blackbirds in flight. I’ve only seen it on the internet, easy to do because the footage is everywhere, but that’s probably my fault. Because if you bother to look, the skies are crowded. There are over two hundred million blackbirds in North America, with eighteen varieties right here in New Mexico. Starlings are so common that often they are regarded as a nuisance bird, gathering in flocks that can number in the tens of thousands, called a murmuration from the Latin *murmuratio*, the sound of water moving, which is what the flocks resemble in flight: undulating, pulsing waves of motion, forming arches and orbs and parabolic ripples and eddies, a coordinated spectacle of breathtaking acrobatics surpassing anything the Blue Angels might attempt. How many of you have seen it? Watching the birds, you sense that the entire flock is one vital organism, seemingly guided by a single hive mind that is exploratory, dynamic, and insistently alive.

Back in the 1930’s an ornithologist named Edmund Selous postulated that the birds must be capable of some kind of telepathic communication, they seem so finely attuned in their aeronautics, so closely choreographed in their aerial ballet. “They must think collectively,” he mused in a book curiously titled *Thought Transference (or What?) in Birds*, “a flash out of so many brains.” Or what indeed!

I don’t discount the possibility of psychic phenomena, even in blackbirds, but scientists today have a different explanation for

the birds' behavior, no less wonderful. Murmurations of starlings are examples of self-organizing systems, which occur everywhere in nature, from whirlpools to spiral galaxies, from crystals and weather patterns to termite colonies and bee hives, from economic markets to neural circuits. Wherever order and design appear in the world, not as a result of some supernatural creator or higher-level decision-making or social engineering, imposed from above but as a consequence of the coming together of dozens or hundreds of seemingly autonomous actors and discrete events, there you have it. When commuters queue up to wait for the bus, no one has to instruct them or command them to do it. The line simply forms. Two weeks ago, Chuck Fawns told a lovely story of folks waiting in line for two hours at a pharmacy with no pushing, no shoving, no short tempers, just the opposite, forming a small civil society because that's what we do and who we are. Human beings are deep down social animals, not exactly like ants, but not entirely different either. Give a handful of ants a plot of earth and in a few days, without any blueprint or leader, they will transform it into a network of tunnels that would be as tall as a skyscraper if stretched vertically and lengthwise. Computers using simple binary bits of on-off information can simulate the activity of ants, or the gyrating patterns of birds in flight, which may mean that the starlings' synchronous soaring is machine-like at some level, governed by simple mathematical algorithms, or which on the contrary may mean that the electronic brain inside your PC is life-like or possessed of some low grade cybernetic intelligence. At certain levels of complexity, it may be a distinction without any real difference.

Human societies also appear to be self-organizing, at least at the foundational level that makes for collective survival. When Russian tanks rolled across the border of Ukraine last winter,

most government officials, aid agencies and relief organizations were entirely unprepared, predicting either that there would be no invasion or that, if one occurred, Kyiv and the rest of the country would fall within a matter of days. No one in other Western countries was prepared for the flood of refugees. But grassroots activists like Yuliya, a Ukrainian Ph.D. candidate in cognitive science living in Germany, were able to quickly set up a home-sharing database of thousands of families willing to open their doors to those seeking safety from the shelling. Without waiting for direction, people with cars began driving women and children to the border. People with cafes and outdoor kitchens began cooking for their neighbors. Those with internet connections, like Yuliya, used social media to organize shelter for those newly homeless. People didn't melt into chaos or panic. Instead, hundreds of seemingly local, small-scale acts of courage and kindness began to merge into a vast wave or murmuration of mutual aid and resistance that confounded the analysts and experts and stopped a forty-mile long military convoy in its tracks.

Here's an interesting fact. Systems that are in perfect balance or equilibrium seldom see these kinds of upswells. You need a little randomness, a bit of disruption, a certain level of mayhem for self-organization to really click. That may be one reason why war zones and disasters are places where we observe the phenomenon most often. On September 11, 2001, for example, subways in Manhattan ground to a halt and tunnels in and out of the city were closed. The lower half of the island was enveloped in a toxic cloud of pulverized concrete and the ash of human remains. Outside of walking miles north over the Brooklyn Bridge, which hundreds did, there were few ways to escape the maelstrom. Yet people did escape. Amazingly, an improvised flotilla of sailing yachts, pleasure boats, tugs and ferries showed

up over the next twenty-four hours to conduct an evacuation rivaling the famed rescue at Dunkirk. "In the annals of 9/11, the boat lift is one of many acts of valor that day—but it was something else: a marvel of improvisation and efficiency in the midst of chaos and horror," according to Smithsonian Magazine. Jessica Dulong, author of *Saved at the Seawall: Stories of the 911 Boatlift*, notes that "Nearly half a million people are vacated by boat, in a spontaneous, completely non-orchestrated effort. Individual mariners working together, individual boat crews doing what they can do. It was orderly, in most cases, but it was not organized," or you could say it was self-organized, like the flocking of birds.

Without prompting, in the dark and choking streets of New York, citizens rose to the occasion. Rebecca Solnit relates how "A young man from Pakistan, Usman Farman, ... fell down and a Hasidic Jewish man stopped and saw the Arabic inscription on Farman's pendant. Then, "with a deep Brooklyn accent, he said, 'Brother, if you don't mind, there is a cloud of glass coming at us. Grab my hand, let's get the hell out of here.' He was the last person I would ever have thought to help me," said Farman, "If it weren't for him, I probably would have been engulfed in shattered glass and debris."

If you lived through it, maybe you remember how unified our nation felt then and in the days that followed, at least for a brief moment, before our leaders in Washington began to distract us with the manufacture of false fears and trumped up wars. Differences of race and creed or politics didn't matter as much. We were all Americans then, all vulnerable, all worth protecting. That's probably how the people of Ukraine felt when the Russians rolled in: like the fingers on one hand, with a defiant middle digit raised to you, Russian warship, as if they had each

other's backs, as if they were all in it together, part of something bigger than themselves.

A sense of oneness, connection, solidarity ... Maybe that's how starlings feel when they murmurate, although scientists tell us that each bird is really only paying close attention to those in its immediate vicinity. Seven seems to be a magic number. Not six, or eight. If a single blackbird notices just seven of its companions flying fore and aft and right at her wingtips, trying to stay close but not too crowded, just holding the course, that larger cohesive collaboration-the whole flock- begins to emerge and take on a life of its own.

This is hopeful news for all of us living in a world where disruptions and disorder are on the rise. Because we're living now in a twilight era, a twilight of fossil fuels, a twilight of colonialism and empire, the twilight of an endlessly growing economy, the twilight of American exceptionalism, an hour of lengthening shadows. From climate change to racial unrest to the threats facing our democracy, established expectations and institutions are coming undone, which may be the very moment for a new wave to catch hold. And we don't need, as individuals, to take responsibility for the entirety of the planet or determine the direction global events are taking: we only need to be aware of the folks who happen to live next door or across town, of the plants and animals who share the same watershed or live in our own backyard, of our families and faith communities and the teachers and nurses and service workers who keep us warm and teach our kids and take care of us when we're ill. We only have to watch out for them, and watch out for each other, Fly right, stick together, stay the course, and something beautiful could happen. A migration could start to occur, a vast collective movement toward everything that keeps us warm: that baked

potato on a winter's night, the places we slept as children, a tumble of puppies and kittens, the kettle boiling at the stove . Seven might not be the precise number for our species. For humans it could be seventy, or seventeen. But whatever, it's a doable number, not beyond reach, and it's not fantasy or wishful thinking or even prayer. It's in the realm of the real, the possible. It's science.

So the sun may be setting early. The chill is gathering. But don't give up and don't give in. Instead head outside. Look upward. You might chance to see a murmuration forming, even and especially at a time like this.