## Carbon, Carbon Everywhere

Together with hydrogen and oxygen, carbon is the essence of life—found in all plants and animals—in skin, blood, bones, muscles, teeth, hair, DNA, eyes, fat, protein, and carbohydrates.

The "King of Elements" wiggles into millions of compounds and non-living things—steel, plastics, ink, glue, shoes, dyes, carpets, aspirin, to name but a few—and is found everywhere: hydrosphere, atmosphere, lithosphere, and pedosphere.

Animals exhale it into the air, and plants take it in. When burned as fuel, their fossilized remains—in the form of coal, oil and gas—return it as carbon dioxide into the air and ocean. The cycle complete.

Now, the carbon is unbalanced—from humanity making, growing, moving, and heating things—releasing carbon faster than the Earth can adapt to it, with more in the atmosphere and ocean than in millions of years. It warms the air and acidifies the seas.

But carbon is the alpha and the omega: carbon planet, carbon-based life.

Mankind had no choice in the matter.

What cruel irony made carbon the basis for life and the instrument of life's extinction?

# O Greenland! My Greenland!

Giving up your ice—frozen for millennia—the shiny shield, deflecting the sun and heat.

Relinquishing your permafrost—invulnerable for eons—releasing methane and carbon into the greenhouse.

Surrendering your meltwater—newly born, cold and sweet—to the ocean's warm, salty current, slowing its circulation.

Shedding rain at your highest peak. For the first time in memory, weeping for the earth.

# Holy Cow!

How can hamburgers threaten the planet? Over a billion cows burp methane, expelling into the air as much greenhouse gas as cars. Who knew? Ronald McDonald never mentioned that.

While cars gobble gas, cows consume grass it takes six calories of grain and grass to produce one calorie of beef. This is bad mileage and poor food efficiency.

And cows cause mass deforestation—particularly in the Amazon, where jungle is cleared for ranching. Cattle already use a third of the planet's arable land. This is expected to increase once China and Africa begin binging on burgers.

Daisy and Ferdinand also excrete five billion tons of poo-llution a year. Much of it drains into waterways, creating oxygen dead zones that suffocate shellfish and force other fish to flee or die.

It's not the cows' fault, so be kind to the kine—that's another issue.

But think about it next time you order a Whopper.

#### Geese at the Lake

The geese used to fly south for the winter, a honking traffic jam winging overhead in V-formation.

Like bikers in a peloton, slipstreaming to save energy, guided by an inner compass.

Now, they bike here for the winter, making a mess in the yard. We used to have snow. Now we have geese.

## Mayday

Welcome to the new normal. A dry creek becomes a raging river, sweeping away villages in Germany. In New York City, people drown in basement apartments. A year of rain in a day drowns Chinese in subways. People fall dead on sidewalks and in their porch rockers as a heat dome kills hundreds in the Pacific Northwest. Toxic particles from California's Dixie fire, ride the Jet Stream to Manhattan. The forever drought in the American West empties reservoirs and closes the Colorado River, as farms and orchards die. In the Arctic, 120 degrees burns 21 million acres in Siberia. In France, a freeze destroys a billion dollars of vineyards. Elsewhere: too many floods and fires to count, as super cyclones, typhoons, and Christmas tornados drown and destroy. The Polar Vortex dips to Texas, knocking out power to ten million. Australia loses three billion animals when 40 million acres burn.

Two degrees warmer,
means drought
and higher heat
evaporates more
water, and warmer
air holds more
water: So storms
drop more water,
are more intense,
move slower,
cause more
death and
damage.

Another 2 degrees is coming. More, more, more.