DECEPTIVELY LIKE A SOLID

The conference is on Glass, in Montreal. Wintry light declines to penetrate windows, and soon will be lit glass-enclosed glows so that we may talk, talk into the night (fortified by bottled mineral waters), of the metric of order trespassing on prevailing chaos that gives this warder of our warmed up air, clinker, its viscous, transparent strength.

The beginning was, is silica, this peon stuff of the earth, in quartz,

cristoballite, coesite, stishovite. Pristine marching bands of atoms

(surpassing the names we give them) build crystalline lattices from chains, rings, of Si

alternating with oxygen, each silicon tetrahedrally coordinated

by O's, each oxygen ion, so different from the life-giving, inflaming

diatomic gas, joining two silicons; on to rings in diamondoid

perfection in cristoballite; helical O-Si-O chains in quartz, handed in

coiling, mirror images of each other, hard, ionic SiO₂.

There must be reasons for such perfection — time lent to the earth: then lava

flowed, the air blew thicker, still no compound or simple eye to fret defect

into the ur-liquid from which silica crystallized. But in time we did come, handy, set

to garner sand, limestone, soda ash, to break the still witness of silica. Heat

disrupts. Not the warmth of Alabama midsummer evenings, not your hand

but formless wonder of prolonged fire, the blast of air drawn in, controlled fire

storms. Sand, which is silica, melts. To a liquid, where order is local

but not long-range. Atoms wander from their places, bonds break, tetrahedra

in a tizzy, juxtapose, chains tilt, bump and stretch — Jaggerwalky. The restive structures

in microscopic turmoil meld to gross flow, bubbling eddies of the melt.

Peace in crystal meshes, peace in hot yellow flux. But the gloved men who hold the ladles get nervy volcanoes on their minds. So - tilt, pour... douse, so quench,

freeze in that micro lurch. Glass forms, and who would have thought it clear?

We posit that the chanced, in its innards so upset, ought not be transparent. Light scattered from entangled polymer blocks, adventitious dirt, owes it to us - oh, we see it so clearly - to lose its way, come awash in black or at least in the muddy browns of spring run-off, another flux.

But light's submicroscopic tap dance is done in place. The crossed fields shimmer, resonant, they plink electron orbits of O and Si. Atoms matter, their neighbors less, the tangle of the locked-in liquid irrelevant in the birthing of color, or lack of it.

Optical fibers Crystal Palace The Worshipful Company of Glass Sellers recycled Millefiori prone to shattering Prince Rupert's drops Chartres, Rouen, Amiens float glass wool Pyrex Vycor the Palomar mirror network modifiers smoked for viewing eclipses thermos lead glass microcrack etched with hydrofluoric acid spun frustration bull's eyes annealed borosilicate softening point

High winds on Etna or Kilauea spin off the surface of a lava lake thin fibers. Pele's hair. The Goddesses' hair, here black.