**BRIDGES** Mathematical Connections in Art, Music, and Science

## **Two Poems**

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## **The Uncertainty Principle**

Here, in the cold incomprehensible mathematics of the dark, in the vast dark of a solar system, where planets orbit a minor star

off to one side in a swirling galaxy, by the numbers out of sight in a universe, a universe of Chinese boxes,

we warm our erratic and playful thoughts by rubbing two words together, *white dwarf, big bang*,

beautiful simplicity.

And yet *leaping genes* or *primordial soup* are incommensurate with the majesty of the world's first life, cells,

their thin skins learning to exchange protean information about proteins, and the two point five billion

years of layers of blue-green bacteria reigning as the only life anywhere, creating from the sun and using oxygen,

symbiotically regulating Earth into unity, changing, like ideograms, their own characters, becoming building blocks for familiar

architectures, tallgrass prairies, bobcats and pheasant, and a human child running and babbling with other

children.

That was the age when reinvention of language was easy, our brains born for metaphor and syntax, renewing and reminding why childhood exists, branch, bud, leaf, green, no growth forgets its roots,

so is it any wonder out of respect and affection, we hold out an arm to protect or enfold a child for comfort

as we tell him tales or family stories, then sing him to sleep, Oh ladybugs and rattlesnakes,

Oh thistle and incredible life from volcanic steam at the bottom of the ocean, Oh Chinese celadon and kids making-up

rules for a game.

And now, compatible with the nonsense rhymes of children, unafraid of bewilderment and being's ambiguity,

satisfied with science in flux or with music calling-up its spirits from continuity's interstices,

we desire the song of a titmouse, we listen to a child correcting his grammar, we wander the anthill trying

to be useful.

## Patience

At the quantum level within one billionth of a trillionth of a second an electron and its mate can emerge out of nothingness without

warning, come back together again, and then vanish. And any light we use to enable us to see that particle affects

its movement. The very act of observation changes the thing observed. Physical fact is inseparable from human perception affecting that fact.

Much as how we imagine the universe began, from nothing we come and return in the end

to nothing. As Shakespeare said somewhere,

Out of airy nothing, a local habitation and a name is created until the rest is silence. Imagination and perception call us to ideas,

especially the unanswerable ones about death and love and the nature of reality, all part and particle in the language and emotions of consciousness.

Some say the only ideas worth thinking are what is unthinkable, a meaning somewhere beyond our reach. Memory gathers upon

something inexpressible that demands to be thought, but what draws us along withdraws from us, however far away we are. Some ideas

seem to ask us to give them thought, to turn toward them and think them, but words fall short of capturing their airy reality.

By the very degree we bring to bear, reality draws back to our desire for what we can't say. Our moments are meant to be born again and again,

and memory is refined in the face of constant becoming, and withdrawal refuses the easy consolation. So just as for any extent of space, there is thought

to be a space of anti-matter exactly matter's match, the gleam in your eye of emergence becomes the dimming of the lights to semblance, to seeming.

Still words need not contain in order to provoke or spark or elicit. Those kisses again open up the promise of something beyond their opening.

Our words, our ideas, tend by nature toward what is out of time, toward what is silent, however loud that silence is. There is

in experience a permanent incompleteness that can not be evaded.