Poems of Mathematics

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Contents

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My Dance is Mathematics

Amalie "Emmy" Noether was born in Germany (1882); she studied mathematics as an unofficial student at German universities. Because of her gender she was unable to secure employment except as a substitute for her mentors in their classes; Noether fled the Nazis in 1933 but sudden illness caused her death in 1935 in Bryn Mawr, Pennsylvania.

They called you *der* Noether, as if mathematics
was only for men. In 1964, nearly thirty years
past your death, I saw you in a spotlight
in a World's Fair mural, "Men of Modern Mathematics."

Colleagues praised your brilliance -- but after
they had called you fat and plain, rough and loud.
Some mentioned kindness and good humor
though none, in your lifetime, admitted it was you
who led the way to axiomatic algebra.
Direct and courageous, lacking self-concern,
elegant of mind, a poet of logical ideas.

At a party when you were eight years old
you spoke up to solve a hard math puzzle.
Fearless, you set yourself apart.

I followed you. I saw you choose
between mathematics and other romance.
For women only, this exclusive standard.

I heard fathers say, "Dance with Emmy --
just once, early in the evening. Old Max
is my friend; his daughter likes to dance."

If a woman's dance is mathematics,
she dances alone.

Mothers said, "Don't tease. That strange one's heart
is kind. She helps her mother with the house
and cannot help her curious mind."

Teachers said, "She's smart but stubborn,
contentious and loud, a theory-builder
not persuaded by our ideas."

Students said, "She's hard to follow, bores me."
A few stood firm and built new algebras
on her exacting formulations.

In spite of Emmy's talents,
always there were reasons
not to give her rank
or permanent employment.
She's a pacifist, a woman.
She's a woman and a Jew.
Her abstract thinking
is female and abstruse.

Today, history books say Noether
is the greatest mathematician
her sex has produced.
They say she was good
for a woman.

Things to Count On

I want to say how beautiful it was — but it was not. Each animal, each shed, each acre was useful; we kept them with good care and counted them, counted on them. One hundred forty acres, seven sheds. A white frame house, eight tall rooms and bath, a cellar with a dozen shelves for canned goods and four lines for laundry, a truck room for junk. We five in three bedrooms, four beds. One extra room for guests — my aunts. Our dining room with seven doors plus closets. A shed beside the corn crib with space for three wagons and a Plymouth. The barn with two mows for hay, a third for straw, a granary, a bathtub for livestock drinking, and six private stalls. Nine cows with two for milking, which I did. In seven days no minutes to be happy, no hours to be sad — not even when my father died. My mother's a good woman, worth three good women. For sixty years everyone has thought this, and more than a hundred have said. I've stopped counting.

Fool's Gold

Not a cashmere sweater for the moths to eat,
nor a Picasso print to hide a dent in plaster.
No more scarves or earrings or a bread machine,
no crystal perfume vials or precious inlaid boxes.
Please, no plants I might allow to die.
Celebrate this birthday with numerology.
Select and give a number. I like large primes—
they check my tendency to subdivide
myself among the dreams that tease
like iron pyrites in declining light.

Consider seventeen. Its digits will
turn heads when I wear it large and crimson
on a grey T-shirt. Watchers will wonder
whether I pay tribute to the ancient Flood
that started and drew back on seventeenths
of Hebrew months, or if I count invasions
of northern India by the warlord Mahmud,
or if, like early Muslims, I base the world
on it — sum of one, three, five, and eight—
basic corner of a magic square.

Conditionals

If you take a rose with petals curled
and put it in a vase beside the clock
that has no hands, someone you thought
was lost returns for morning tea.

If you push hard against your belly wall
and square your shoulders while no one
watches from the pines, you hear
your sister's whisper in distant highway noise.

If you slowly peel an orange after noon
and pluck tomatoes by the quarter moon,
you see beyond obsession to details.

If you walk the river's edge to pick up stones
and pile them to mark a place, tomorrow’s dawn
shines bright upon your broken fingernails.

Can a Mathematician See Red?

Consider the sphere —
a hollow rounded surface
whose outside points
are the very same points
insiders see.

If red paint spills
all over the outside,
is the inside red?

The mathematician says, No,
the layer of paint
forms a new sphere
that is outside the outside
and not a bit inside.

A mathematician
sees the world
as she defines it.

A poet
sees red
inside.

A Mathematician's Nightmare

Suppose a general store --
items with unknown values
and arbitrary prices,
rounded for ease to
whole-dollar amounts.

Each day Madame X,
keeper of the emporium,
raises or lowers each price --
exceptional bargains
and anti-bargains.

Even-numbered prices
divide by two,
while odd ones climb
by half themselves --
then half a dollar more
to keep the numbers whole.

Today I pause before
a handsome beveled mirror
priced at twenty-seven dollars.
Shall I buy or wait
for fifty-nine days
until the price is lower?

The price-changing scheme of this poem is derived from a version of the Collatz Conjecture, an unsolved problem that has stolen hours of sleep from many mathematicians. Start with any positive integer: if it is even, take half of it; if it is odd, increase it by half and round up to the next whole number. Collatz' Conjecture asserts that, regardless of the starting number, iteration of this increase-decrease process will eventually lead to the number one.

Time

I

The clock goes round —
showing time a circle
rather than a line.
Each year's return to spring
swirls time on time.

II

Time's not
as Newton said —
the same for all —
for I
am punctual,
and you are late.
You waste
the savings
I spend on you.

III

Six o'clock does not exist, but at seven
she answers your knock, elegantly dressed
for the nineteen jewel evening you've carefully planned.

IV

At my time’s end I want to rust away
like the graceful iron gate that wore jack-o-lanterns
in October, swung the lions of March winds,
struck the backsides of generations of women
bringing groceries to the kitchen door.

A Taste of Mathematics

A mathematician left the convention
focused on 9, the digit that sits
in the billionth decimal place of pi,
ratio of circumference to width
of the yellow circle that parted the clouds
as she strolled down Commerce Street
to the Rio Rio Café for lunch and a beer.

On fire with jalapeños
she went shopping
for a souvenir.
She bought earrings —
red-red plastic peppers
with green stems.

She said, "Hot peppers
are like mathematics —
with strong flavor
that takes over
what they enter."

Square Poems	
Mock feelings serve as well as true ones.	All over the world fashionable shoes-- trendy, hazardous, uncomfortable-- keep women in place.
When lovers leave avoid laments; grab a cactus-- new pain forgets. More than the rapist, fear the district attorney smiling for the camera, saying that thirty-six sex crimes per year is a manageable number.	**The Bear Cave** Twenty-five years ago at Chiscau, marble quarry workers discovered-- trapped by an earthquake in a wondrous, enormous cave--bones of one hundred and ninety bears, *Ursus spelaeus* (now extinct). Cold rooms of cathedral splendor now render tourists breathless while the insistent drip of water counts the minutes. There is no safe place. a poem of Romania