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Book Review: *A New Index for Predicting Catastrophes: Poems* by Madhur Anand

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Synopsis

This review explores Madhur Anand's recent poetry collection from several points of view. One involves consideration of mathematical concepts and imagery in her poems. A second viewpoint takes into consideration Anand's own field — she is a professor of environmental science with a focus on ecology. A third view considers the poems as art objects — words building pictures that offer to readers both insights and pleasures.

A New Index for Predicting Catastrophes: Poems. By Madhur Anand, McClelland & Stewart, Toronto, 2015. (Paperback US\$18.95, ISBN: 978-0-7710-0698-1, ebook ISBN 978-0-7710-0699-9. 102 pages.)

Madhur Anand's poetry has for me been thought-provoking, imagistic, and enjoyable. *A New Index for Predicting Catastrophes* is an intricately tangled and visually vivid collection.

I first met poet and ecologist Madhur Anand in 2013 at the Banff International Research Station where we both participated in a week-long workshop focusing on creative writing in mathematics and mathematical sciences. When I obtained her 2015 collection, *A New Index for Predicting Catastrophes: Poems*, my first activity was to give it a quick scan for math-related

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titles. I collect such poems. When I was a mathematics professor (at Bloomsburg University in Pennsylvania) I used mathy poems as enrichment items and outside reading assignments for my students. The poems I collected then led me, in retirement, to start a blog — *Intersections — Poetry with Mathematics* (found at <http://poetrywithmathematics.blogspot.com>) and my habit of collection continues.

My initial review of the *Contents* found some math-sounding phrases — “Normality Assumption,” “Bell Curve” “Type One Error,” “Sole and Plaice (On the Mathematics of Flatfish)” — and additional terms, including “fifty-fifty,” “equation,” “linear combination,” and “derivation,” also suggested mathematics. I cleared space at my desk, found pencil and paper, sat down, and began to read. In my blog I eventually posted — with permission from Anand and her publisher — “Type One Error,”² which is at least partly about right things that have been rejected and “No Two Things Can Be More Equal,”³ a poem that features the identity matrix.

The poem “Normality Assumption” is a sort of found poem — of which there are several in the collection. Its poetic phrases have been found in and selected from one of Anand’s research publications (in this case, a paper entitled “Lichen Communities in Two Old-Growth Pine (*Pinus*) Forests”). We have these opening stanzas:

The first plot has its apex
 placed halfway between the Italian
 Alps and an old peatland
 in Estonia, between openness
 and snags

A second plot winds
 around immature specimens
 lacking fruiting bodies
 and reliable chemistry

. . . .

²<http://poetrywithmathematics.blogspot.com/2015/09/it-starts-with-counting.html>.

³<http://poetrywithmathematics.blogspot.com/2015/07/math-and-poetry-and-climate.html>.

After my scan of the collection looking for mathy poems, I next sent myself to the beginning of the book. It is relevant to know that the poet is a professor in the School of Environmental Science at the University of Guelph. Her specialties (found at the university's website) are: global ecological change, sustainability science, forest ecology, ecological modelling, biodiversity. To read well, it seemed best for me to update my sense of the term "ecology" and at Dictionary.com I found this definition:

noun 1. the branch of biology dealing with the relations and interactions between organisms and their environment, including other organisms.

The dictionary also volunteered variations — human ecology and population ecology — which I did not pursue.

Anand's collection is prefaced with a pair of epigraphs. From Adrienne Rich, "Is it in the sun that the truth begins?" — and Rich's juxtaposition of humanity with the natural world is appropriate as an introduction to Anand's doing much of the same. The second epigraph contains these words of Democritus, "Everything existing in the universe is the fruit of chance and necessity." These words properly set the stage not only to consider the particular opposites of chance and necessity but also, more generally, for the multifaceted play of opposites against each other throughout this collection of poems. A rule that may guide Anand's thinking as it does my own is that when perceiving an apparent truth one may beneficially consider also its opposite — and the play between opposite pairs may wiggle closer to something true.

The opening poem is "What We Don't See in Light's Dark Reactions" — and the opposites set forth in the title dance throughout the seventeen-line stanza. Here are its opening lines:

The rejection of reds, a gap of blues, chlorophyll
 absorbing necessary wavelengths. The public good
 of peacocks, feather primordia morphogenesis
 behind the wheel. Function and shine of an evening
 brooch, butterflyed. Shiver and heat: sky-scraping violet
 Brazilian soccer shirts, and cachaça on ice. Bird
 of paradise peering through closed canopy. Flowers

like Heliconia, mistaken for flight. Fancy.
 Economy. Monkeys and mycorrhizae playing
 non-zero sum games. . . .

As I write here, I have mixed feelings about my dictionary use. If I were not writing a review I might be satisfied — I often am — with the hint of a meaning for an unknown word as its sound dances within a collage of phrases. But today I am anxious not to be wrong. I have investigated to find that “morphogenesis” refers to the development of structural features in an organism; “heliconia” is a plant often known as “bird of paradise”; “mycorrhizae” are symbiotic relationships that form between fungi and plants. I welcomed the appearance of “non-zero-sum” which I know refers to a gamble in which “the interacting parties’ aggregate gains and losses are expected to be different than zero,” (also see https://en.wikipedia.org/wiki/Zero-sum_game).

When you procure Anand’s book you will smile with pleasure as you receive the whole of this first poem. And those that follow.

As we move on to consider other poems, let me mention that Anand’s stanzas have been constructed with 13-syllable lines. She calls this to readers’ attention in the *Notes* for the collection and explains her choice in this way: “Of the three naturally occurring forms of carbon, only those with atomic mass 12 and 13 are stable, and they occur in a proportion of 99 : 1, respectively, in the natural world.”

A New Index for Predicting Catastrophes has a back-of-the-book description that accurately and concisely relates that the poems originate “from her living room, backyard garden, university office, or the field sites in boreal or tropical forests . . . they bring order and chaos together. . . .” Anand’s second poem illustrates the subtle way that phenomena from the natural world connect with issues in her own life. (The title, “Cantharellus,” names a species of edible mushroom.)

Cantharellus

We were boring jack pines, storing their cores in plastic
 drinking straws. It had been raining. I’m no naturalist
 but understand the association of fungi
 and forests, their partiality for recent rain.

I don't know birds or bark, but once grasped indifference
by the neck. Such that when I saw them — creamy orange
against first brown, then grey, then green — I was 95
per cent sure. I brushed aside soil, lichen, moss, placed them
into yellow hard hats. Later we would discern which
tree rings were false. Of greater concern was my own
mortality. And mushrooms I decided were true.

Frequently a poetry collection causes me to wonder, *how did the poet choose the title for her collection?* Sometimes the title appears as a line in one of the poems. Early in Anand's collection we find this:

Hill Country, Old Mercedes, and Parturition

There's a new index for predicting catastrophes.
It's the decreasing rate of recovery from small
perturbations. . . .

It's hard for me not to say more — and you will want pick up the book and turn to page 11 and read on — to see the magic of connection to a brown cow, a family member, Texas, and disease resistance.

Midway through the collection, "The New Index" is the title of a poem that opens with these stanzas:

It should have the circumference of a wild blueberry
pie, vinyl record, or hubcap of a Mercedes

truck. You have to take the cross-section, observe layers
of light and dark, dividing the years. The wide, early

phase of growth, release, or a crowded economy
where time is compressed, and we can only read backwards:

The condition of postmodernity. We want to know
from scars when every fire occurred, every

red pine seedling given a chance, a topography
of probabilities, learning, learning. . . .

The lines above illustrate the sort of experiences that await us throughout these pages as the poet's juxtaposition of images links the familiar to the unfamiliar — we see, we experience, and often we understand.

In what follows I have selected several stanzas from Anand's poems that I particularly like — samples that show the range and beauty of this work. Samples that show not only color and sound and imagery but also engage the mind.

Here are the closing stanzas of "Mean Field":

Let yourself be touch by mathematical
 roots, handwoven theories
 fibrous and irrational

Watch spikelets think
 you're some new
 kind wind

and here, under the title "Alienation (The Transferring of Title or of Interest)" are the opening lines of a found poem from a research article for which Anand is an author — entitled "The Scientific Value of the Largest Remaining Old-Growth Red Pine Forests in North America" and published in the journal *Biodiversity and Conservation*:

Accounts were ignition sources
 from within their own perimeter,
 but in recent months, climate
 without change reduced
 the spread of public attention

A media agent increased persistence
 but there were no linkages
 between abatement and refugia

Personal communication
 and park status dropped
 below natural levels . . .

These are the opening lines of "Somewhere, A Lake" which is one of my favorite poems of the collection:

As the sun heals the surface of ice, I lose my footing
on Ramsey Lake. My heel pierces the thin crust and I
recollect the depths to which light can take me. That day

the lake, soft at the center, a wedding cake with white
shavings. . . .

It's hard for me to quit quoting favorites - - toward the end are "Grey Is Its Own Complement" and "Picasso's Goat" that want my mention. But you can acquire the book and have them all — and wrestle with some of them, as I did — and enjoy some magic and some mathematical imagery. I like what Anand has done. Poetry, yes, and subject matter also. In this collection, we may read to experience poetry and read to learn.