## Humanistic Mathematics Network Journal

Issue 18

Article 7

11-1-1998

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#### **Recommended** Citation

Mitchem, Virginie H. (1998) "Plastic Pebbles," *Humanistic Mathematics Network Journal*: Iss. 18, Article 7. Available at: http://scholarship.claremont.edu/hmnj/vol1/iss18/7

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# **Plastic Pebbles**

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### A seagull

Measures the height of winter surf, Sun and wind seeping through his feathers While beneath him waves gather rocks from the shoreline, Sift, sort, grind, and leave them at low tide,

Glinting pebbles, glistening sand.

People count, sort, and tally the pebbles As the tide rises and falls to the rhythm of the moon. We read the moon's language Measuring days, nights, months, years According to the passage of sun and moon; Our gaze soars from stars into the depths of space.

And we leave those pebbles on the beach and build machines to describe our universe. Knowledge multiplies; accumulated thought patterns Illuminate the darkness of abstraction. The tide takes bottles from our shoreline, Grinds them smooth, then tosses them back, Muted green and brown While a foghorn sounds through the mist Barely audible above the wave roar.

Children gather rocks and bottle-pebbles from the beach to sort, count, tally, and weigh. Parents feed facts into computers Until waves of words and figures Innundate our world behind the shoreline.

When thinkers left their counting pebbles by the sea They built their theories on the supposition "If..." They built, bound only by imagination and logic.

Still we create new theories from the depths of our insatiable minds,

Framing deductions, mathematical reason— Concise amongst verbosity.

Our machines produce, computers test new ventures Inspired by wind, sun, and space.

### One day,

Two men taught and a computer performed. The computer performed and the men learned. Together they solved a problem, Adding new dimension to our thought. Together they built a proof mathematicians had sought alone for a hundred years.\*

But what of limits? What if applications clash with oceans Or distortions destroy?

Today's tides pluck plastic bottles from the shoreline And cannot toss them back ground smooth and glistening wet.

Instead toss them bent but indestructable onto rocks Or gather them in eddies and currents to be carried

through oceans

To contaminate distant beaches.

We will learn with our machines, produce, judge, explain, and solve

In unimagined ways

While seagulls watch,

Sun and wind filtering through their feathers;

Waves grind rocks and bottle-pebbles green and brown

To glistening sand;

Waves will silence the foghorn,

And what of the plastic?

\* In 1976 two graph theorists, Kenneth Appel and Wolfgang Haken, proved that four colors suffice to color any map drawn on a plane so that no two adjacent countries are the same color. This is the first documented mathematical proof including computations compiled by computers (1,200 hours, 3 computers, used both as a research tool and in final computations). University of Illinois, July 1976. While solving this problem, the mathematicians learned from the computations carried out by the computers, and likewise, the computers' calculations were modified based on what the researchers deduced from the earlier calculations.