

## Blogging Math Art

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### Abstract

Since January 2014 I have been publishing weekly blog posts on Math Art on [fibonaccisusan.com](http://fibonaccisusan.com). In this paper I present examples of the types of Math Art I found, guided by my criteria for Math Art. I also discuss where I found this Math Art and why this is a good time for Math Art.

### Introduction

As an artist who has been working on mathematical art for a long time, I am of course very interested in the mathematical art work of others. Venturing out of my studio to look at art has always been a significant part of my creative process. In January 2014, I embarked on a quest to find Math Art anywhere I could, and write about it weekly in my blog [fibonaccisusan.com](http://fibonaccisusan.com).

The first two posts for the blog were about the art exhibition at the 2014 Joint Mathematics Meeting in Baltimore. There was an abundance of great work on display at that show to discuss. I was not sure how difficult it would be to find more mathematically based art once I left the conference. I started pounding the pavement—mostly in New York City—and visiting galleries, art fairs and museum exhibitions. Now, over 100 blog entries later, read by over 10,000 people, it is time to take stock.

### What Is Math Art?

In 2010, in an article in JMA, I outlined an inclusive definition of "Math Art". I think that Math Art should include all artwork that meets at least one of the following criteria [1]:

1. The art is based on a mathematical phenomenon, or
2. the art is generated by a mathematical process, or
3. the art is a personal response to mathematics by the artist.

I found and wrote about art that fits these criteria. I will illustrate this with some examples. Two artists who have made work directly based on mathematics are Steven Naifeh and Paul Glablicki. At the Leila Heller Gallery [2], in April 2014, Naifeh's "Found In Translation" presented paintings and constructions about geometry and symmetry referencing Middle Eastern architecture [Image 1]. Building patterns with basic geometric shapes in repetition, Naifeh assembles complicated images. Using a computer to calculate the specifics, the shaped canvases and copper-plated steel elements fit together with precision.

At the Kim Foster Gallery [3] there was a show of exquisite drawings by Paul Glablicki based on Einstein's Theory of Relativity. Glablicki's work has layers of scientific data, charts, and mathematical formulae. In drawing RELATIVITY #8 [Image 2] the artist has drawn a series of Pascal's Triangles in the mix of images.



Image 1: Steven Naifeh, Saida XXXVI, 2014  
Picture courtesy of Leila Heller Gallery



Image 2: Paul Glablicki, RELATIVITY #8  
Picture courtesy of Kim Foster Gallery

James Siena's typewritten drawings that were displayed at the Sargent's Daughters Gallery [4] in October 2014 illustrate how art can be generated using numerical rules. Siena creates mathematical visual poetry, using algorithms to determine which typewriter keys are pushed, and in which order. Instead of a pen, pencil, or brush with ink, lead or paint, Siena uses the depression of the typewriter keys and red or black typewriter ribbons to execute his mark making [Image 3].



Image 3: Untitled (0-9, ten, eight, six, four, three, two, one), 2014  
Picture courtesy of Sargent's Daughter Gallery

Daniel Canogar's installation "Small Data" at Bitforms Gallery [5] in April 2014 expressed the artist's views on society's relationship with numbers. In the work "AC, 2014" [Image 4] Canogar uses an old calculator with a broken screen. A black and white video presentation incorporating a series of LCD numbers, handwritten mathematical formulas, as well as other images is projected onto the calculator. The scale of this work makes it a very personal statement about the tenuous and fickle relationships humans have with our electronic devices. The device is no longer useful for its original purpose, but the remnants of the numbers it displayed and the formulas it helped solve still linger.

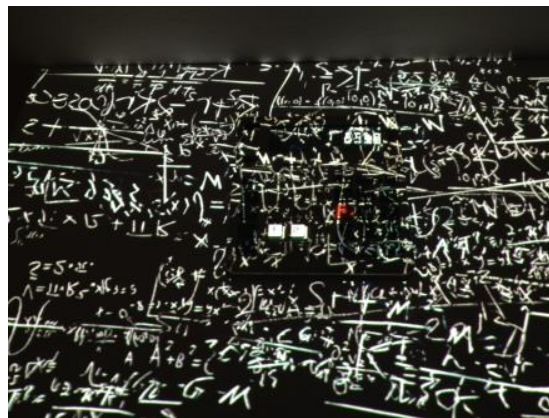


Image 4: Daniel Canogar, AC, 2014  
Picture courtesy of Bitform Gallery

### Where Is the Math Art?

I am happy to report that I have had no problem locating art to write about. I use a two-pronged approach for my search. First, I look for new work with mathematical implications. Second, I look for art of historical significance where I can emphasize mathematical aspects of that work.

Regarding new work, I have been quite successful finding solo shows that fit my criteria in commercial galleries in New York. Temporary museum shows like the 2014 Whitney Biennial are also a good source of material. To see a wide range of styles and themes the art fairs that feature booths from many galleries have offered a good resource for recent trends. Smaller museums like the Aldrich Contemporary Art Museum in Ridgefield, Connecticut often feature recent projects of artists.

For historic work, I have found numerous exciting group shows in New York galleries. Examples are "Concrete Cuba " at David Zwirner, "Drawing Then" at Dominique Levy Gallery and "Eureka" at Pace Gallery. University galleries produce shows with a more academic agenda. The Payne Gallery at Moravian College in Bethlehem, Pennsylvania presented "EAT, Experiments in Art and Technology". This exhibition and its supporting documentation introduced me to a whole collaborative community of artists and engineers working at Bell Labs in the 1960s. The major museums in New York City like MOMA and the Metropolitan Museum of Art have also been great sources for finding the connections between mathematics and art.

### Why Math Art Now?

Besides the personal enrichment I get from learning a lot about mathematics and art, why is this a good time for this blog? Over the past few years I have participated in professional art conferences organized by the College Art Association and Art Librarians of North America. Participants at these conferences are quite interested in the mathematical foundations and rule-based practice of my own drawings. I think there are two reasons for this. First, educators in all disciplines are incorporating STEM and STEAM education into their curriculum. Second, today's new curators and art educators grew up with computers and are engaged with social and aesthetic properties of algorithmic processing. On a final note, one of my favorite Math Art works in a museum, Sol Lewitt's "Wall Drawing 370" (1968) [Image 5] at the Metropolitan Museum of Art [6] is one of the most photographed works of art in the museum in 2015. This according to Randall Griffey, the Associate Curator Modern and Contemporary Art [7].



Image 5: Sol Lewitt, Wall Drawing 370, 1968  
Picture taken with permission from MMA

I will continue my mission to bring Math Art to a wider audience through my blog.

### References

- [1] Happersett, Susan (2010) 'The Cartesian MathArt Hive Exhibition, The Bowery Poetry Club, New York, 2009-2010', *Journal of Mathematics and the Arts*, 4: 3, 163—172
- [2] Leila Heller Gallery, 568 W 25th St, New York, NY 10001, <http://www.leilahellergallery.com>
- [3] Kim Foster Gallery, 529 W 20th St, New York, NY 10011, <http://kimfostergallery.com>
- [4] Sargent's Daughters Gallery, 179 E Broadway, New York, NY 10002, <http://www.sargentsdaughters.com/>
- [5] Bitforms Gallery, 131 Allen St, New York, NY 10002, <http://www.bitforms.com>
- [6] Metropolitan Museum of Art, 1000 5th Ave, New York, NY 10028, <http://www.metmuseum.org>
- [7] Randall Griffey, personal conversation, September 2015