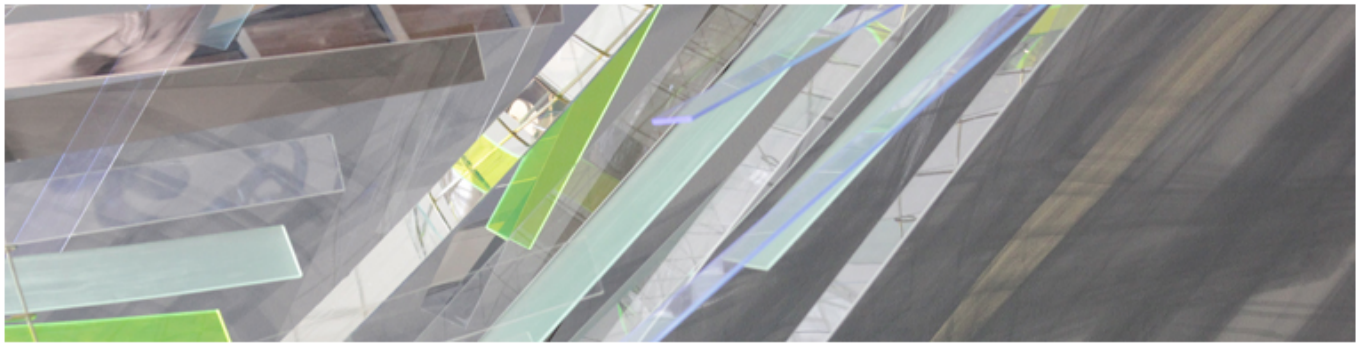


Seeing and Thinking Outside the Box

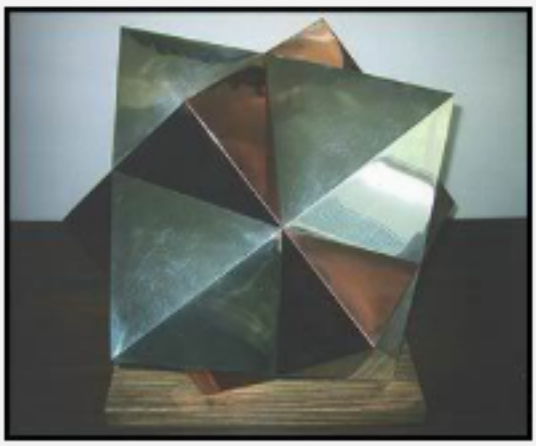
October 4, 2011 by curatorialintern

1 squared, 2010. **Arthur L. Carter** (b.1931). Stainless steel, 36″ x 36″.

The New Britain Museum of American Art is pleased to host the exhibition of sculptural paintings by the artist Arthur L. Carter on view from September 30th to November 27th in the Davis Gallery. The title of the show, *Orthogonals*, refers to the property in mathematics – orthogonality – in which two vectors are perpendicular. A wonderful blend of art and mathematics, the rectangles, squares, triangles, and lines in Carter's wall reliefs coexist and intersect in surprising ways to create an atmosphere that is both musical and harmonious.

Trained as a classical pianist, Carter produces art that can be described as a symphony of diverse and contrasting elements. Though an accomplished sculptor, he did not commit to the craft until 1990, having previously earned a living as a successful investment banker, entrepreneur, and publisher for a number of newspapers such as *The Nation* and *The New York Observer*. His propensity for order, which is evident in his business ventures (he has owned and operated more than a hundred industrial companies) and interest in graphic design during his publishing days, eventually manifested itself into a form of sculpture. Carter's decision to adopt sculpture as his medium was inspired by a long standing interest

in geometry and the organization of space and structure – elements he dealt with constantly as a newspaper publisher.

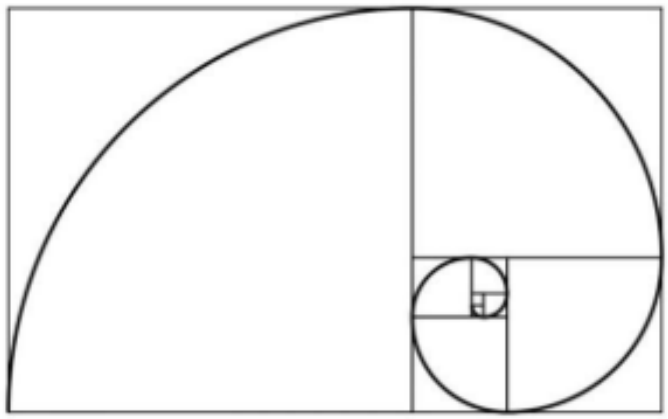


Octacube, 1996. **Arthur L. Carter** (b. 1931). Silver and copper, 15x21x15 in.

At first glance, the grid-like quality and pure use of color in the orthogonals may bring to mind the work of Piet Mondrian (1872-1944), Donald Judd (1928-1994) and Joseph Albers (1888-1976). Simplified color schemes and shapes fashioned out of straight edges also recall the characteristics of Russian Constructivism as practiced by Alexander Rodchenko (1891-1956), Kazimir Malevich (1879-1935), and El Lissitzky (1890-1941). Also, what is not often mentioned is the subtle influence of Cybernetics on Carter's work. In an interview with an art journalist, curator, and professor at the City University of New York, Charles A. Riley, Carter cites Douglas R. Hofstadter's book, Godel, Escher, and Bach: An Eternal Golden Braid as one of the hallmark books in his library. Hofstadter, a computer scientist, centered his book around Cybernetic themes that interweave mathematics, art, and music. Cybernetics, as defined by Norbert Wiener, an American mathematician who is regarded as the originator of Cybernetics, is the use of computer technology to extend human capabilities. Communication, both digital and verbal, has already been forever modified by the developments in technology. Taking this idea one step further and seeing the world through "computerized vision" could produce repetitive images, mirror imagery, and forms not unlike Carter's *Octacube*, 1996 (not on view in this exhibit). Many of Carter's other works display Cybernetic concepts as well.

The sculptural painting 1^2 consists of a stainless steel square welded onto a metal canvas. The light reflects and refracts, creating what look to be scratches that seemingly cover the work. These "marks" shift depending on the lighting in the room and position of the viewer, producing an ever changing surface. When standing in front of 1^2, the viewer is presented with a fun-house-mirror version of him or her self. An elongated face or arms stretched like putty are examples of the way 1^2 reconfigures information before spitting it back to the viewer. According to Norbert Weiner, all communication is a form of pattern and organization. The less information that the message

carries, the easier it is to understand it. A cliche, for example, is an example of a message with limited information. Carter's *1²* plays with the natural surroundings to present a message that always fluctuates depending on the viewer and viewing conditions involved.



The Fibonacci Sequence

Carter has also created his own method for developing compositions by using the discoveries of Pythagoras of Samos (the Pythagorean Theorem) and Leonardo Pisano Bigollo (Fibonacci Sequence) to guide the placement and measurements of geometric forms across planes. The simple, seemingly unremarkable pattern of the Fibonacci sequence is generated by writing "1" twice and producing each succeeding term by taking the sum of the two numbers immediately preceding it. This formulaic way of generating numbers is comparable to an algorithm, a function of a computer. An algorithm, defined as a sequence of steps laid out as a flow chart and then used in computer programming, decides a computer's function. Like computer programmers, Carter uses the Fibonacci sequence as an algorithm to create the measurements and designs of his sculptural paintings. What is fascinating is that while Carter's art certainly evokes mechanical, industrial, and computerized forms and patterns, it also finds links to nature. The Fibonacci sequence which inspires nearly all of Carter's compositions is also manifested across the natural world – in the arrangement of flower petals and the spiral of the nautilus shell, for example.

In turn, the ratio of any two Fibonacci numbers is very close to the "golden ratio." To calculate the measurements of the shapes and their relative distance, Carter relies on the "golden ratio", held by the Greeks to produce the most aesthetically pleasing rectangle. The "golden ratio" is when the ratio of the sum of the quantities to the larger quantity is equal to the ratio of larger quantity to the smaller one. This relationship is exemplified in the arrangement of forms found in *Orthogonal Construction 15*. Here, Carter paints over the steel constructions with a primary red and a shade of black. The half red/half steel square in the upper left hand corner would be

Orthogonal Construction 15, 2010. **Arthur L. Carter** (b. 1931). Stainless steel with red and black painted rectangles, 30" x 48"

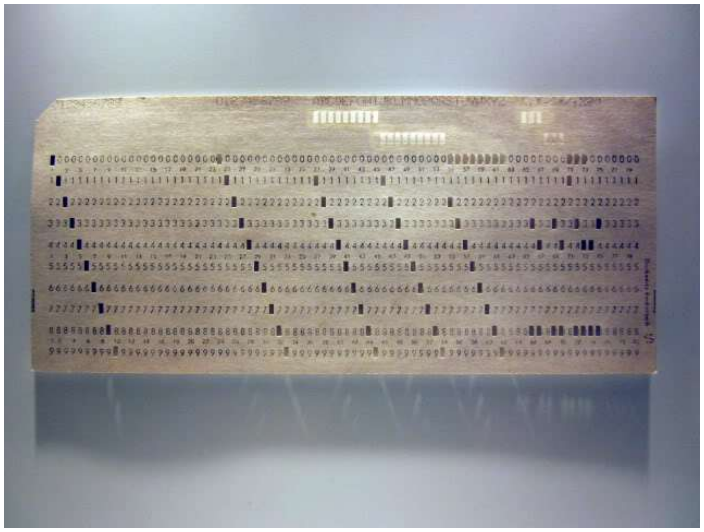
considered a "golden rectangle." Long side "a" (the outer side of the red square), and short side "b" (the top of the steel rectangle,) when placed adjacent to the side "a" (of the red square,) will produce a similar "golden rectangle" (the red square) with longer side "a + b" and shorter side "a". The formula for a "golden rectangle" is then "a+b= x" and "x/a = a/b." Evidence of the artist's fascination with math and organization can be discovered in various parts of this and other sculptural paintings. Are there any other places where you see the "golden ratio" or a "golden segment" in Carter's work?

In what ways does Carter's role as an artist differ from that of a mathematician or an architect negotiations of space? In some ways, his role has become blurred. Mathematicians, artists and scientists, all deal with theoretical space as well as the two and three-dimensional realms. They all treat space as a puzzle whose pieces may be divided, extracted or covered according to his or her liking. While an artist may be free to re-arrange spatial elements, the constraints of the picture plane ultimately dictate how shapes can exist within its parameters. Although the triangles, squares and rectangles that inhabit Carter's relief sculptures may seem arbitrarily placed, they are in fact the product of a slow, calculated, and meditative process.

5 Squared, 2010. **Arthur L. Carter** (b. 1931). Acrylic on paper, 9 X 12 in.

Despite the rationality and order within the orthogonals, there are also moments of

idiosyncrasy. The sculptural reliefs simulate three dimensions through their subtle shading, bold use of contrasting colors and recrudescent surfaces, thus creating a depth illusion in the same way that Renaissance artists employed perspective in their drawings to demonstrate the limitlessness of infinity. *5²* shows Carter's drawings of geometric forms that give the illusion of a third dimension. A series of drawings titled 3^2, 4^2, 5^2,and 6^2 are composed of small squares multiplied within a grid like pattern. The boldly colored squares appear to float above the surface of the paper. In other instances, the negative space vibrates throughout the page, a rebellion, perhaps, of the eyes, as they adjust to the extreme linearity and perfect measurements of the squares. These works on paper are then translated into relief paintings, seen in *1²*, *2²*, *3²* and *4²* that bring the drawn squares to three-dimensional life. It is as if Carter has created a punched computer card to mimic a computational way of translating messages.



It is a "relief" to see an artist who is able to combine art, math, and computational science in way that is inventive, inviting and visually appealing. In an age of extreme specialization, particularly in the sciences, Carter encourages the viewer to "think outside the box" by combining seemingly disparate disciplines to create a harmonious and beautiful visual language.

In what ways can art benefit math and science in everyday life? Do you think art is capable of increasing our understanding of mathematics or science? What might be other ways that artists can use mathematical and scientific phenomena to inspire their art?

Please join us for the opening reception of *Arthur Carter: Orthogonals* on Sunday, October 9th at 2PM!