EUROPEAN SOCIETY FOR MATHEMATICS AND ART
NEWSLETTER

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Dear Colleagues,

The following report highlights some specific on the upcoming ESMA exhibits.

If you have checked the ESMA calendar recently, you may have noticed we have scheduled three exhibitions in the upcoming months

- The first one (June 1-September 4) at the Palais de la Découverte in Paris. The Palais de la Découverte is part of the larger Grand Palais that recently hosted a major Monet exhibit. The Palais de la Découverte itself was built in 1937 as part of an international exhibit « Arts et Techniques dans la vie moderne ». It is a pedagogical institution attended by schools and students and open to the public as well. IRCAM who is planning a conference on math and music this summer invited ESMA to participate to the event. We had to deal with three specific constraints: first, the Palais de la Decouverte is not an art museum; second, our display would be limited to roughly 20 meters of wall space; and third, the works should relate as closely as possible to music. Accordingly, we submitted a selection of works as follow – works linked with waves (appearance of solitons, Fourier transformation), works linked to mathematical tools used both in art and music (groups), and works directly inspired by music (specific artworks).

- The second exhibition (June 7-July 23) takes place at La Maison des Arts in Aime, a small community at the edge of the magnificent Massif de la Vanoise in the French Alps. Some 40 works will be presented there.

- The third exhibition (February 1-17 2012) takes place in the main venue (the Salle Rene Capitant) of the Paris Vth arrondissement City Hall, right next to the Pantheon.

The evolution of the biological world goes along with the slow progress of humanity's ability to represent its immediate surroundings and the creation of more and more efficient physical tools of perception. And creation, attached to the development of rationality, develops tools of symbolic representation of a more and more abstract nature.Works of art belong to that last category. Concrete reality expresses itself in two ways: materially (in a larger sense and including biology), and in an abstract way. A car belongs to the concrete reality. It has not been created by some abstract entity, except if you consider man as god! Numbers belong to the concrete - abstract reality. Numbers are representation and were not created by some higher entity, unless again, if you consider men as gods.

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With numbers, you can create charts representing a part of their phylogeny; here is a partial chart: **1→2**. *Can it claim to be some kind of primitive artwork? The composer Tom Johnson, an ESMA member, is exploring block design in music. He has sketched some elaborate charts representing the structure of the block designs he is using in his composition. Robert Bruner from Wayne State University recently exhibited some charts coming from algebraic topology in a show called "Mind" at Gallery Project in Ann Arbor, Michigan. Many visitors, fascinated and intrigued by the display, asked for more explanations.*

The fact is that this kind of work has a very few common points with traditional art. The simplicity of the line shows elements of perfection in both content and presentation. Those are local resting symmetries and as in many modern works like Dali's, they are not always very explicit on their own. They stand, quite unfamiliar, sometime singular looking and strange, and often lead to more question. They do have the advantage over many other works to have a steady substratum and a specific reality to support their abstraction. Can we say they are authentic works of art, or that they are just a first tentative step toward a new kind of representation whose importance will grow in the future, as humanity is developing more tools to transform itself and colonize space?

With my best wishes

Claude Bruter

Insurance: ESMA active members' works benefit from transportation and exhibit coverage against damage, accident and theft. Membership dues need to be up to date for the insurance to work! Update your membership if you have not yet done so.

ANNOUNCEMENT

THROUGH JULY 31. LOS ALAMOS, NM USA - LACDC Science and Math-based Art Competition. $3000 in cash prizes. Winning submissions may have their art placed on public display in the new Los Alamos Creative District as part of LA's new Outdoor Science and Math Art walk. Participate or **vote** for your local ESMA member!

SCIENCENET A global virtual community for Chinese-speaking scientists. It reaches more than 3 million people per month and is the most well-known science media in Chinese research institutes and universities ScienceNet.cn is co-sponsored by Chinese Academy of Sciences (CAS), Chinese Academy of Engineering (CAE) and National Natural Science Foundation of China (NSFC).

CAS The Computer Arts Society (CAS) promotes the creative uses of computers in the arts and culture generally. CAS recently merged with CADE - Computers in Art and Design Education.

ACTIVITIES

June 1 - September 4, 2011. **"Mathematics and Art"**. ESMA exhibition, in collaboration with IRCAM. Palais de la Decouverte. Paris. FR.

June 7 - July 23, 2011. **"Mathematics and Art"** ESMA exhibition. Maison des Arts. Aime. FR

February 1 - February 17, 2012 "Mathematics and Art". Mairie du Ve (Salle Capitant), Paris. FR

FRACTART - A nice review of ESMA summer 2010 exhibit on the Fractart site.

On-Going

- **IMAGINARY** exhibitions in Spain (2011 and 2012) Organized and coordinated by the Royal Spanish Society of Mathematics. (RSME).

RESOURCE CENTER

Posted this month on the ESMA website, resource center page. For suggestion, recommendation, comment on new posts: info@mathart.eu

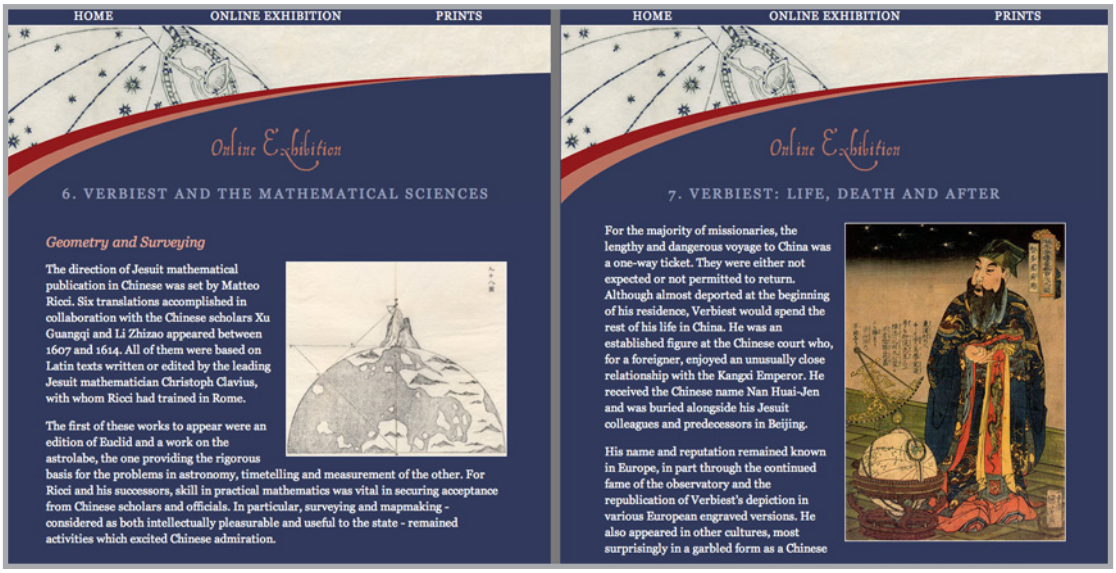
- **BRUNER, Robert**. Mathematical music visualization: the sphere, the Moore space, the Joker. EN (Resource, Music)

- **JOHNSON Tom:** Mathematical musical archives. EN (Resource, Music)

GALLERY

Museum of the History of Science, Oxford UK

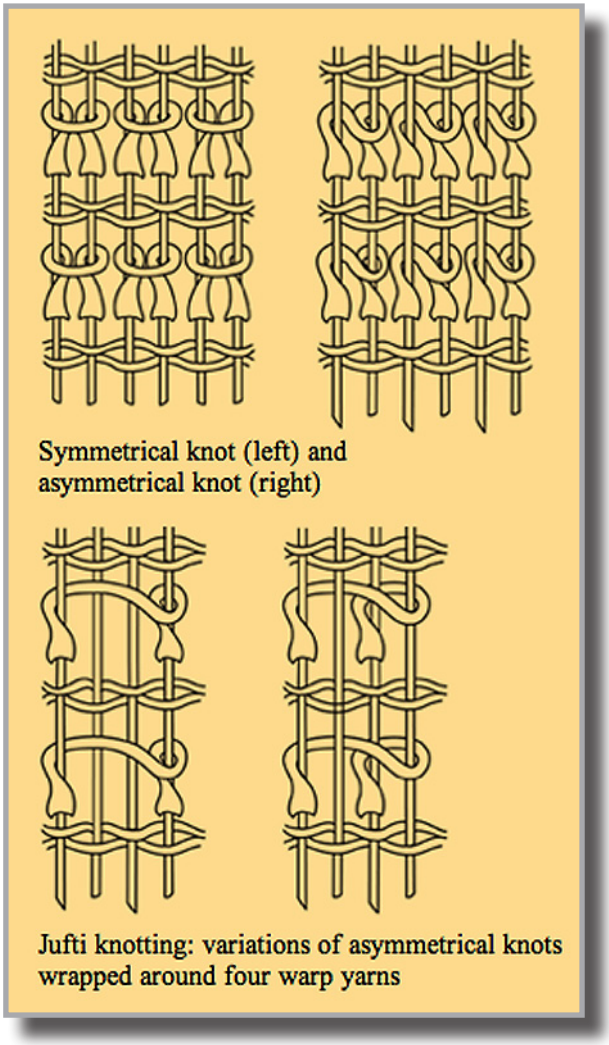
Online exhibition: The Jesuits in China, Mathematics and Mission, Ferdinand Verbiest in Beijing, the Beijing Observatory and more....



TECHNOLOGY

Pieces of a Puzzle

(Classical Persian knots techniques)



Symmetrical knot (left) and asymmetrical knot (right)

Jufti knotting: variations of asymmetrical knots wrapped around four warp yarns

Classical Khorasan carpets are characterized by superior wool and dyes; a broad color palette including blue-green, orange, and a bluish-red; exquisite drawing; and distinctive knotting variations. Although carpet patterns traveled from region to region, weaving techniques, choice of materials, and secondary elements of design often remained constant in one place and are therefore more reliable in identifying the origin of a particular carpet.

Many Persian carpets use an asymmetrical knot to secure the pile yarns that protrude from the surface and create the pattern. In Khorasan carpets, these knots are usually wrapped around four warp yarns rather than the usual two warps. This knotting variation is known as jufti, or paired or double, knotting. The knots in Khorasan carpets are also often offset, or staggered, row by row.. *(Courtesy - The Textile museum, Washington DC)*