European Society for Mathematics and the Arts

Mike made
it !

ESMA Newsletter N°24
February 2012

Dear Colleagues,

The notion of Beauty is of course a common denominator for the Arts and Mathematics. But what do we mean by beautiful ? Does this term have the same meaning in both fields ? What compels us to pronounce something beautiful ? None of these topics can be analyzed in a few lines.

This text will give the content of my short talk at the opening of the February ESMA Exhibit in Paris. It will take place in a large meeting room in front of the Pantheon, furnished by the local Town Hall (Mairie du Ve Arrondissement). I am presenting this text only because the final words refer to Beauty, albeit a very small aspect of Beauty.

"All those present this evening join me in offering our sincere gratitude for your complete support in giving us the opportunity to present this exhibit in the highly symbolic meeting room named after René Capitant, a famous jurist and resistant. The exhibit is dedicated to the fine arts and is inspired by the beauty of mathematical objects as revealed to us in these materialized works. It is to be accompanied by original exposes destined to heighten the appreciation of the tremendous richness of the mathematical world, and is to be presented to primary and secondary students. The exhibit is being held under the auspices of the European Society for Mathematics and the Arts, ESMA. ESMA is also promoting another old project, a Park of Mathematics, which is being created and developed by our Russian colleagues.

It would be an impossible task for me to describe here the wealth contained in each of the works exposed in the fields of art, science, mathematics and computer science. I cannot emphasize enough the significance, the diversity and the degree of originality of these works. Included are works of modern art, as evidenced by their content as well as by the techniques used in their production, and abstract art, as evidenced by their physical aspect, for mathematics is a type of abstract physics since the objects in its universe can be profoundly, albeit discreetly, connected to our physical environment. Each of these criteria, whether in computer science, the arts or in mathematics, allows us to form our judgment of a work.

Nor will I be able to develop here some of the fundamental ideas concerning the relation between mathematics and the arts, or the importance of mathematics in human activity in general.

At this moment, however, because we find ourselves in the meeting room named after René Capitant. I would like to draw a brief parallel between the activities of this great jurist and those of mathematicians.

We are all familiar with the jurists' moral rigor and logical reasoning. This has its counterpart in the mathematician's argumentation when proving his thesis. The very word "resistance" evokes a difficult subject matter, a road strewn with potentially dangerous obstacles to overcome, in any case with a necessity to persevere against all odds. Of course, mathematicians do not normally have to endure the misfortunes and the physical violence

suffered by resistance fighters. But they are constantly confronted with the intellectual obstacle, the affirmation waiting to be proved, that which we call the Conjecture. It's renown has traversed the years. In some cases it has taken centuries to finally be able to demonstrate the proof of certain conjectures, those of Fermat and Poincare, for example. Perseverance wins out when it relies on the profound intuition of that which is true and just. "True" refers to reality while "Just" refers to stability. Both, according to Plato, necessarily form the basis for beneficent Beauty, for which we have particular need in these difficult times, and which often appears to us resplendent, in the aerial universe of mathematics.

I thank you!"

Claude P. Bruter

P.S. : ESMA building, its website, its logo, have to be renewed! All members are invited to submit a new LOGO. Proposals have to be sent to Richard Denner(richard.denner@evc.net) before March 3. Richard will send your proposal to the Board who will choose the next logo. The proposals have to fill up a constraint : there should be symmetry of 12 order which recalls the fact that the blue European flag has twelve yellow stars. Our records will keep the fact that the beautiful important part of the previous logo, the central image, was made by Mike Field. Thanks to Mike again.