A Successful Art&Math Exhibition with Workshops II

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Abstract

Two years after 'Art&Math, a concept, an exhibition' at the University of Brussels, the idea was renewed on a smaller footprint and for a shorter duration, and with a slight variation in the title and emphasis that brought in a few new works : 'Art&Math:écriture(s)'. The location within in the framework of the Uccle Libraries triggered the subtitle, suggesting the different 'coding' possibilities that the generic French word may contain, from both a math and art perspective. This short paper reports the cases considered with pictorial examples. The workshops were chosen among the original ones with no direct relationship with the new flavor.

Introduction

In 2014, *'Art&Math, a concept, an exhibition'* was organized in Brussels and was reported at the Bridges Baltimore 2015 Conference. As a second installment, the present short paper reports on another such 'math art'(*) exhibition, and in order to bring the reader ideally 'up to speed', we would like to suggest checking out the initial paper available online [1], specifically the introductory paragraphs 'Philosophical Thoughts' and 'Art & Math as a Statement, a Manifesto' (after the book/catalog [2]), to grasp the intentions and particularities of this kind of events.

The success of the original exhibition incited the Libraries organization of Uccle, one of Brussel's districts, to seek another edition at one of its premises, so they first organized an introductory lecture by the first author at the main communal library 'Le Phare', along with an exhibit of the explanatory panels that structured the expo in math subjects [1], introducing these and mentioning examples of math art works. So a second renewed version *'Art&Math:écriture(s)'* [3] was held in 'La Maison des Arts' in Uccle historic centre. The relationship with the libraries gave rise to the subtitle 'écriture(s)', the French organic word –with apparently, and most unfortunately, no direct equivalent in English– being here thought of with respect to the different coding properties the concept conveys, in close relationship with math art.

Among those of two years ago, the following workshop subjects were offered again [4] :
- Free figures with POLYUNIVERSE (by János SAXON Szász, with the first author as animator);
- Initiation to origami (by Jacques Mouvet);
- "TIT ATA" and "TIT ATA TRI" (colored tessellation games by Anita Drisch);
- Playing with words according to OULIPO – Raymond Queneau (by Jean-Michel Pochet);
- In addition, Labyrinth-maze duality/Atomium-soccerball, open books on duality of polyhedra/2D, 3D geometry and approaching 4D with Zometool (by Samuel Verbiese) of two years ago was requested.

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* A reviewer suggested to avoid the word 'mathart'. As this neologism indeed might seem reductive in 'artistic qualities' -whatever the significance of 'art'- we thus prefer using 'math art', like in 'land art'.

The Mathematical Coding Nature of Various Cases Considered

The specifics brought in with the new subtitle make the essence of this 2016 exhibit versus the previous version of 2014. In this context, 'écritures' will be understood in a fairly broad, yet precise, sense, as a way of communicating that represents ideas using recognizable 'signs' on a variety of supports. These signs constitute a significant alphabet, a code which, when shared, allows for a precise and univocal communication.

In this use of the term, a 'random scrawl' with a ballpoint pen is not an 'écriture' ...whereas the Inca quipus [5] are one.

The notion of code crossed the exhibition in numerous ways, throughout the works and the sensitivities of each artist. Among the many works on display we highlight here some offering the most interesting features for the Bridges community:

- *Codes specific to mathematics*, as the different number scriptures, from binary (Fig. 1a,b) to decimal (Fig. 1c) via the more exotic Maya code in base 20 (Fig. 1d) and the Incas' with knotted threads (Fig. 1e).
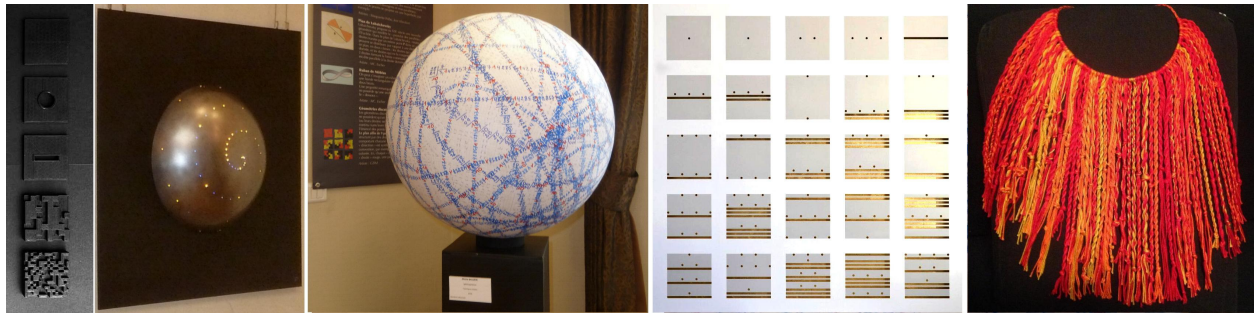

Figure 1 : a. J.-L. Colot '*Codes*', **b.** K. Dreesen '*EπΙlogue*', **c.** M. Bauwin '*The infernal division*', **d.** Ph. Leblanc '*Mayanacci*', **e.** M. Pivin '*Quipus*'

- *Codes to encrypt information*, like Hamming's error detector-corrector code (Fig. 2).

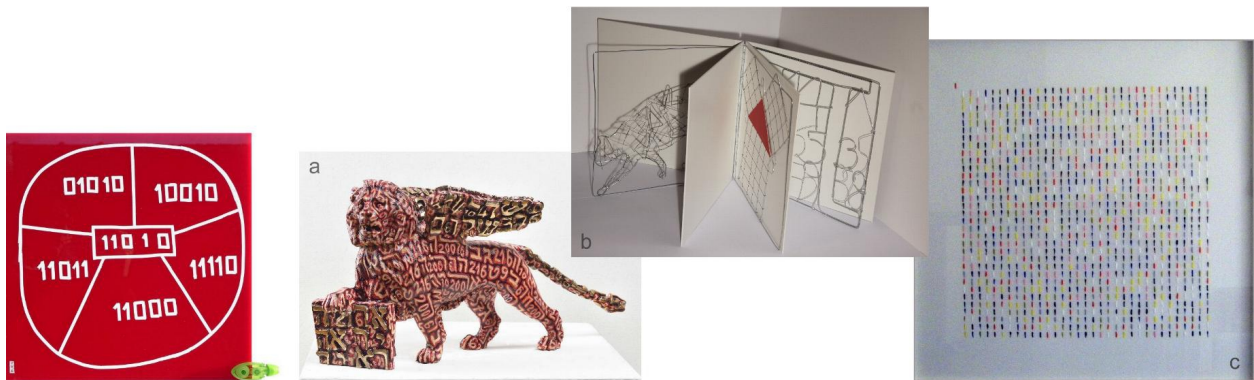- *Esoteric and personal codes*, to enrich a purely factual information with poetical meanings (Fig. 3a–c).

Figure 2 : F. Huon '*Corrections*'   **Figure 3 : a.** T. Rava '*La forza del Timore*', **b.** B. Schuermans '*Au fil des Maths*', **c.** A. Drisch '*Les 1089 premières décimales de ...*'

- *The classical alphabetical code*, which assigns through the scripture of words a meaning to the tracing of writing; in this category one met diverse usages inside the mathematical activity of the word or the symbol (Fig. 4a–e).
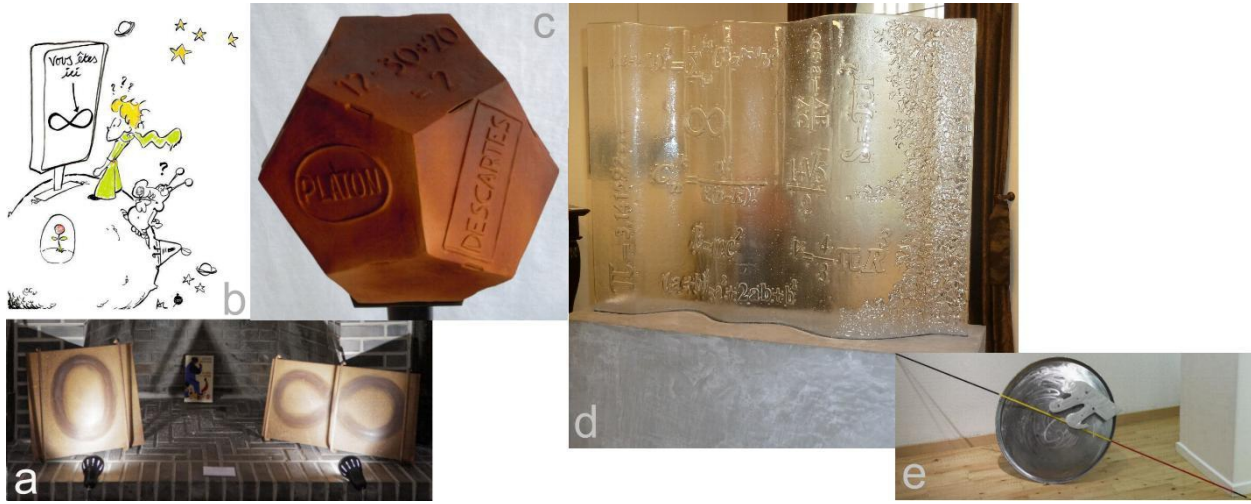

Figure 4 : a. M. Cerralvo '*Le Zero et l'Infini*', **b.** A. Dauchot '*L'Infini, c'est par où?*', **c.** N. Schoonbroodt '*Dodécaèdre*', **d.** J.-Y. Vossius '*Vague souvenir*' , **e.** GDM '*Pichat*')

Other interpretations of the link between math and 'écriture' diverged happily from the beaten track, inviting the visitor to unravel the mystery of some artistic enigmas (Fig. 5 a–i)
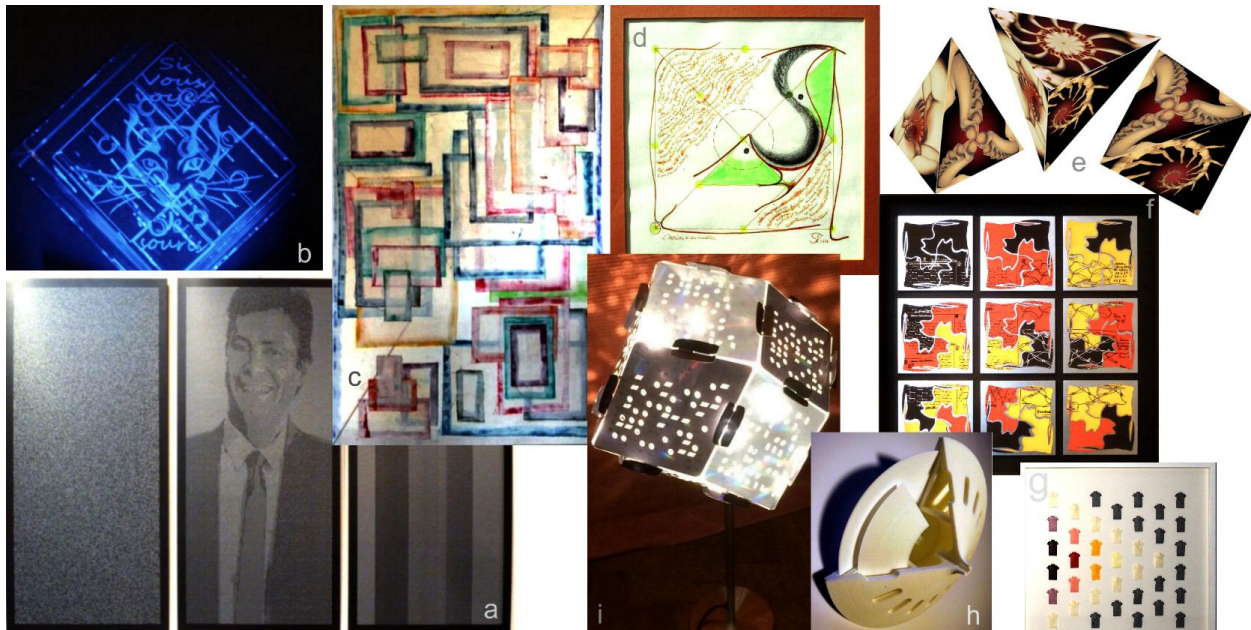

Figure 5 : a. B.Velu '*Max Tegmark et l'Univers mathématique*', **b.** Ty Sablon *'Points de vue (II): Je souris, si vous voyez...chat',* **c.** S. Helholc '*Toualle de Vie*', **d.** S. Verbiese '*l'Artriste et ses modèles*', **e.** P. Gonze '*Poésimages de INCANTANIA*', **f.** GDM '*Hommage à Escher*', **g.** J. Mouvet '*Triangle de Pascal*' in origami, **h.** J.-F. Diord '*Etudes de Caractères*', '*Century 3D*'**, i.** ITSPHUN '*Lumière en morse'*

Finally, a wide range of texts associating in different ways arts to mathematics highlighted works of Boris Vian, Raymond Queneau, Georges Perec, Claude Berge, Douglas Hofstadter and others from the French OULIPO movement, as well as the comics works by Alain Goffin, Benoît Peeters, Luc & François Schuiten, all these names being largely documented on the Internet.

Figure 6 : *View of an exhibition room and of the House of Arts with the banner of the expo*

Conclusion

This event proved again, as is the case for Bridges conferences, but on a much smaller scale yet on a longer time scale, how exciting for both visitors of all ages and organizers alike, art with a mathematical meaning can be. Guided tours and workshops for schools plus lots of personal connections among people were magical moments to be repeated in the future with different subtitles like this one.

Acknowledgments and Copyright

Grateful thanks to Jean-Michel Pochet for opening his large personal collections on Raymond Queneau and the OULIPO, to ULB Culture, to the Libraries system of Uccle, to the Bridges Organization for support, to Eric Laysell for his fine help with English and to the reviewers for their useful suggestions. Copyrights pending.

References

[1] Gisèle De Meur and Samuel Verbiese, *A Successful Art&Math Exhibition with Workshops,* Proceedings of the Bridges Baltimore 2015 Conference, http://archive.bridgesmathart.org/2015/bridges2015-495.html

[2] Gisèle De Meur, *Art&Math, un concept, une expo,* 180°editions, 2014, www.180editions.com

[3] Gisèle De Meur, http://gatito.be/expo

[4] Gisèle De Meur, http://gatito.be/expo/2016/01/infos-pratiques-2016/

[5] https://en.wikipedia.org/wiki/Quipu