

Bridges Exhibits as Incentives to Collaborative Artworks

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Abstract

RAM-8 Groep, a Belgian local artist collective, found in Bridges Exhibits a compelling incentive to produce exciting collaborative artworks around mathematical content with a total freedom of expression, once layout and theme suggested by members in turn and enhanced by the group, are finalized. To date, three works including this year's were realized and the general descriptions of the ones of Enschede and Seoul in the relevant Catalogs are here supplemented by crisp indications of the various artists' personal intents, first with respect to mathematics. An Appendix shows hi-res images of the works' "making-of" and as they were further exhibited in local events including the Figibox initiative.

Math Intents

To date, for three entries in a row at Bridges Exhibits [1], the members of 'RAM-8 Groep' [2], a Belgian local artist community, have appreciated these addictive events as an opportunity to bring their skills together to create exciting collaborative works. The overall structures supporting the areas for personal creativity are geometric constructions emphasizing some form of an eight-fold symmetry, first suggested by a member of the group and then further developed to a final agreement, all in constructive open discussions. The personal representations, according to a preset theme agreed upon freely, feature some aspects of their authors' traditional work. Only for the first two works, as wisely recommended by the referees, this paper details the mathematical content in the artists' contributions, which, despite being rather shallow because the artists are not themselves mathematicians, nevertheless is essential to the intent of contributing to mathematical art.

This short paper is, by essence, meandering, and can seem unfocused and very confusing. The individual artist statements truly are a phantasmagoric dream-like stew of math concepts, there is no overarching theme (other than given), and this all is a giant salad of those (simple) math concepts (some) people at Bridges (our target-audience, hopefully as crazy as we all are) ever focus on, and it is indeed a drug that needs to be taken and a cult to be joined, LOL. So, serious people are respectfully allowed to leave us here, and our interested friends are urged to fully enjoy, by referring extensively to the details in the Catalogs [1], the essential Appendix paper on the CD-Rom [3], and/or on the Group's Internet pages [2].

Entry at Bridges Exhibit Enschede 2013

As a federating initial theme Sam suggested labyrinth dual topology, one of his pet art-math research subjects (see several *Amazing Labyrinths* Bridges papers starting with [7]), and proposed his *microChartres* associated to its dual maze turned into a circuit by connecting opposing dead-ends (Fig.1b), both paths wandering around an 8-paneled 'accordion' (Fig.1a). As support for this landscape, Alex came up with a square-based pyramid finally featuring acute *golden triangles* by Sam's suggestion. The group decided to attribute to each member a base color between the 6 of the wheel of colors plus black and white by rolling dice. Drawings and realization of the structure were mainly due to Alex and Nico.



Figure 1 : *a: Enschede artwork, b: microChartres labyrinth, c: Alex's Way, d: bridges and tunnel.*

Personal contributions (here ranked alphabetically by first names) turned the work into an exciting game for patient kids of all ages (the reader is invited to use Fig.1 upper left and Catalog images [1] as maps):

Alex: He starts the labyrinth, adhering both to the labyrinth/maze content and his signature abstract geometrical work, i.e., halving of areas in both orthogonal directions on a square base (Fig. 1c). Entering the maze part from Seniz's side, the visitor arrives immediately in a dead-end and escapes to a facing dead-end in Alex's place again via a bridge that he designed as a colored beaded wire (Fig1d).

André: His part of the Ariadne thread is simple: just a single fold almost at the end of the journey. Soon after the lower entrance port the visitor starts a winding portrait trail and wanders through a lighted candle on the brain symbolizing creativity and solution to this topological problem: the visitor indeed understands he/she must complete the journey to the exit port above his entry port. His part of the maze is simple too: entering from between boundary ports he gets immediately trapped in a dead-end and can escape only by the yellow spot onto Sam's bridge.

Carmen: Organizes her signature poetic layers of intricate colored wood to follow the dual labyrinth/maze math content. in a playful landscape.

Mark: The panel slightly resembles the Plateau of Gizeh; it symbolizes the origins of (built) architecture. As the larger pyramid is provided with 'windows', it is also reminiscent of Pre-Columbian architecture as well as Fischer von Erlach, who was the world's first architecture historian. The 'bridge' to Carmen's maze is a tunnel entering the small pyramid in a dead-end to a little hole in Carmen's maze dead-end..

Nico: Displays his illustration skills to transform the path into scores of strange animals and decorations with multiple hints at 8, with even a necessary internal bridge.

Rudi: Organizes his pet decoratively grinded multicolored painted surfaces and selection of various materials to respect the labyrinth/maze and bring the strolling visitor on its edges/within the intermediate areas from and to Nico's panel and to that of Seniz. His maze dead-end in the middle of the spiral on the circular mirror virtually connects to Nico's eye placed in his own maze dead-end when the onlooking visitor gets to see the eye at the center of Rudi's mirror.

Sam: White Zometool inventory follows the labyrinth lines as projections of the red spatial Zometool Ariadne paths involving an 'ocean plat' plait knot open at both sides with several hints at 8 and multiples.

Seniz: Completes the landscape into sort of a neat geometric 2-color ('night blue' and white) tessellation including a nice 5-branched star.

Entry at Bridges Exhibit Seoul 2014

As there would be no RAM-8 Groep member present at Seoul for financial reasons, the model this time would be light and partially modular for shipping purposes. Alex played with 8 half balsa cubes and this gave rise to some sort of a 'turbine' with hierarchical/self-similar properties (Fig. 2c); this time 'eight' would be the rallying theme for all personal contributions, with a two-color code agreed on: following Anita Drisch, a Belgian artist who associates yellow to the number 8 (see her artworks at the Art & Math Expo at Brussels University [6]), Carmen added a complementary violet. As Rudi and Seniz couldn't remain in the Group any longer, Anusch and Carlo took their place. Realization by Alex, Carlo and Nico.

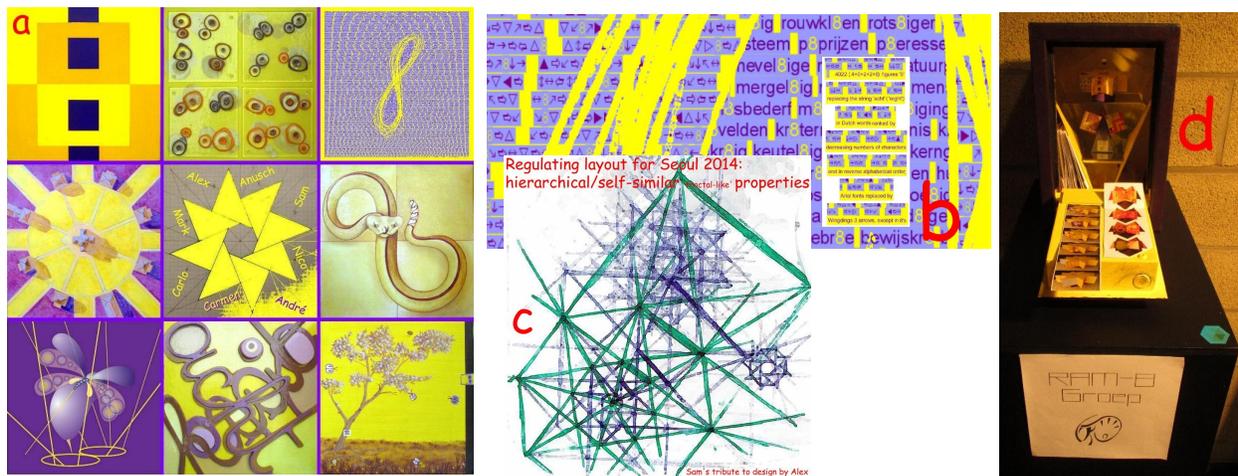


Figure 2 : *a: Seoul work, b: detail Sam's idea, c: Hierarchical/self-similar plan view, d: Figibox.*

Personal contributions:

Alex: Same halving principle and playing with alternate colors as usual (see Enschede) but here he simply draws the theme as a symmetrical figure 8 looking vertically non symmetrical due to use of colors.

André: Poetry and color skills expand the imposed yellow/violet 2 color range into many shades using black & white, into leaves of a 'tree of life' and numerous butterflies featuring figure 8s or infinities.

Anusch: Specializing in glass- and crystal-ware, she entered Bridges with precious hints at the figure 8.

Carlo: *Also a first Bridges contributor bringing in his longstanding humorous computer imagery skills: 'Octoscriptor' is a funny hint to Escher's 'pedalalternorotandomovens'. His Dutch description [2,3] also uses 'scientific babble' this time to justify the many hints to the number 8, some only appearing sporadically according to the alternate move of transparent insect wings, with also a hint to infinity in the horizontal 8 drawn by the yellow light rays emitted as camouflage against predators.*

Carmen: *3 8s written cursorily in different languages are hardly recognized in crossing wood-layers.*

Mark: *For years, the 18th century architecture in Central Europe has been a regularly recurring theme in his work.. With '8' as starting point for inspiration, he refers to an edifice of that time in an interpretation of Clemenswerth Castle in Lower Saxony. This baroque hunting lodge complex is composed of a central building with an octagonal core to which eight alleys lead, creating a star shape. Around it, eight smaller pavilions are situated each between two of those alleys. The oil painting derives from a 3D computer model of the site he custom-built with Google SketchUp.*

Nico: *A magnificent almost real figure 8 snake, and ...take a look at its tail!*

Sam: *According to very small characters of the last 'text' line the work presents: '4022 (4+0+2+2=8) figures '8' replacing the string 'acht' ('eight') in Dutch words ranked by decreasing numbers of characters and in reverse alphabetical order, 'Arial' fonts replaced by 'Wingdings 3' arrows, except in 8s (Fig. 2b).*

Images of Artworks, their “Making-Of”, Local Display Sites, Figibox, etc.

The works, not for sale, function as attractive playful instances alluding to math in the context of the family, namely in the Figibox geocaching initiative, Fig.2d [4,5]. The Appendix on the CD-Rom [3] show high resolution images about the works, their "making-of", local display sites and dedicated Figibox.

Acknowledgments

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References

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- [5] RAM-8 Groep, Figibox, cultural center De Blank, Overijse, www.denblank.be/2014/10/22/figibox/
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