



Interactions and Border Crossings
in Art and Science

Pécs – Ars GEometrica 2009
3rd International Convention and Workshop
Interactions and Border Crossings in Art and Science

„Creativity and Innovation”

18-21 June, Pécs City, Hungary - Europe

Organizer:
Pécs Cultural Centre

Professional Partner:
Pécs University
Faculty of Fine Arts

WebPAGE and Archives:

<http://pecsikult.hu/page2009>

The Pécs - Ars GEometrica (PAGE) programme would like to draw attention to borderline cultural phenomena that promote the development of creative thinking, intellectual curiosity together with aesthetic sensibilities. PAGE establishes connections between various forms of knowledge and methods that promote artistic and scientific achievements, and between cultural patterns of different types and uses. PAGE presents the interplay between art and science in terms of opening – with regard to freedom of research and self-expression. Its aim is to evoke the traditional and contemporary values of art and science to become vivid community values.

Our presenters and participants from various fields of scientific disciplines and arts are internationally renowned. Our program includes conference lectures, presentations, exhibitions, workshops, concerts, light art objects, films, interactive games and much more. Some of the artworks, made by the students of the *'Interactions and Border Crossings in Art and Science'* course – held at the Pécs University Faculty of Fine Arts by Csaba Hegyi, DLA (Pécs University) and Kristóf Fenyvesi (Jyvaskyla University) –, will be introduced also in the framework of PAGE 2009.

PAGE 2009 is the official event of the European Year of Creativity and Innovation announced by the European Union and of the series of events preparatory to the [Bridges Pécs 2010](http://pecsikult.hu/en/bridges2010) - European Capital of Culture World Conference - Mathematical Connections in Art, Music and Science (<http://pecsikult.hu/en/bridges2010>).

Turn a PAGE and Come to Pécs!

Join us in Pécs (Hungary), the forthcoming European Capital of Culture!

**Pécs Ars GEometrica:
LIGHT – ART - SCIENCE**

Creativity, game and innovation in the school, in the exhibition hall and out in the open air.

Programme Information: fenyvesi.kristof@pecsikult.hu

18th June 2009, Thursday:

Dominikánus House

**10.00-11.30 Opening Session: Art and Science, Creativity and Innovation in the work of famous Hungarians: Janos Bolyai, Vilmos Zsolnay and Victor Vasarely
Chair: George W. HART research professor – Stony Brook University, New York (USA),**

Bridges Organization

10.00-10.30 István LÉNÁRT (Eötvös Loránd University, Hungary): Bolyai-Lobachevskian Geometry: Can it be taught – should it be taught in general education?

<http://www.lenartgomb.hu/>

Two hundred years ago, Gauss hesitated to publish his discoveries in geometry, because he feared 'the outcry of the Boeotians', his contemporaries against the possibility of different kinds of reasonable geometric systems. Almost two decades ago, A. D. Alexandrov wrote: 'Lobachevskian geometry can hardly be included in secondary school curricula, but it seems essential to give pupils an idea of it, and show them the greatness of the human spirit...' I think that Bolyai-Lobachevskian geometry can be taught even on upper elementary level, not only for the talented few, but for the majority of the class. I try to give outlines of such a method, then try to answer another, just as difficult question: Is this possibility welcomed by education and by the society behind the educational system?

10.30-10.50 Katalin PÉTERNÉ MAROSY (Zsolnay factory, Pécs city, Hungary): Art and Science, Creativity and Innovation in the Life and Work of Vilmos Zsolnay
www.zsolnay.hu/

10.50-11.10 György DARVAS (Symmetrion, Hungary): Art of geometry – geometry of arts in the works of Victor Vasarely
<http://symmetry.hu/>

Victor Vasarely „played” at great variability with systematic tessellation of surfaces. Tessellation of surfaces without gap is a geometric task, on the one hand, and subject of artistic representation, on the other. The two together mean repetition, and combination with each other, of elements of symmetry. F. Klein characterised this in the following form: „*geometry is the theory of geometric invariants of a transitive transformation group*” (Erlangen program, 1872). Groups of transformation – often called as groups of symmetry, because they leave invariant (intact) certain (geometric) properties of the figure – that appear in the works of Vasarely are the following: translation, rotation, mirror reflection, similitude (enlargement/reduction), affine projection from an outside point, as well as translation and reflection in a colour-scale. All these together yield an unlimited abundance for asserting artistic creativity. Vasarely made the best of this opportunity, by the way of his own specific mode of expression. The lecture presents examples in a few concrete artworks, what do the listed elements of symmetry mean that – over the artistic quality of representation – make his works beautiful.

11.10-11.20 Discussion

11.20-11.30 Break

11.30-12.00 **Opening of the micro exhibition of Seval SENER, Nejla ALATAS (Turkey) and Katalin HAÁSZ (Hungary)**

Opening words by Ferhan KIZILTEPE (mathematician and independent artist, Turkey – professional consultant of PAGE 2009) and Ole LISLERUD (designer, Oslo National Academy of the Arts, Norway)

The exhibitions are open in the Dominikánus House (7621, Pécs Színház tér 2.) in the period of 18-19 June: 10-18h; 20 June: 10-14h.

12.00-13.00 Reception and Lunch in the Dominikánus House for the registered participants of Pécs Ars GEometrica 2009

13.00-17.10 Ars Geometrica: Geometry in the Culture, Art, Science and Design

Chairs: András MENGYÁN (independent artist, Hungary) and Antal KELLE (Artformer Studio, Hungary)

13.00-13.30 Ernő MAROSI (Research Institute for Art History of the Hungarian Academy of Sciences, Hungary): The notion of the Sacral in the Arts

<http://www.mta.hu/index.php?id=421&TID=483>

13.30-13.50 Deniz ÇALIŞ (Bahçeşehir University Faculty of Architecture and Design, Törökország): Poetics of Geometry and Form in Ottoman Gardens

<http://www.topos.de/index.php?Navi=143&Subnavi=89&do=autor&id=14463>

The presentation aims to discuss the geometry and forms of Ottoman private gardens, and their representation in arts; such as the arts of the book, arts of paper-cutting, ceramics and textile. The outline of the Ottoman gardens and their interior organization are known to have no formal geometry as compared to other Islamic gardens of the Safavid, Moghul or the Moorish Al-Andalus. Lacking a formal geometry in terms of their overall form; representation of gardens in pictorial arts illustrates complicated spaces with no definite order at first sight. However, thorough analysis of Ottoman gardens unfolds complex geometrical organizations. Examining the overall layout, border conditions and design criteria of gardens, the presentation aims to discuss the reasons for the “formlessness” of Ottoman gardens; and the rational behind the “complication of vision” in garden design. The Ottoman gardens and arts of gardening will be argued in relation to Ottoman perception of space. The Ottoman concept of nature; Ottomans’ relation to nature and their organization of natural spaces will be emphasized in order to analyze use of complex geometries in garden design and representation of gardens.

13.50-14.10 Eszter TARI (Pécs University, Hungary): The continuation of the Javanese tradition of 'wayang'

<http://eszter-tari.webs.com/>

The Javanese *wayang* is a complex traditional art form which has developed for centuries and has a lot of variations. Whereas the artisans make their puppets by using the techniques of handcrafts, painting and sculpture to realize a performance, in some branches of *wayang* the puppets are replaced with dancers and actors. During the show the puppeteer demonstrates his knowledge and talent in the field of puppet-moving, acting, music with solo singing and conducting the orchestra. The *wayang* performance is a rite, during which the puppeteer, as a medium, invokes the gods and ancestors to descend and show the right way to those present. Through the presented stories philosophical, moral and theological values rooted in the tradition are conveyed which form an entangled and merely invisible net still being the underlying basis of modern Javanese life and

ideology. Various forms of performance responding to new influences have emerged and developed on this basis, furthermore, the reflection of the formal, semantic and symbolic aspects of *wayang* can be discovered in high arts as well. The *wayang* heroes live among the Javanese people as if they really existed, therefore it is small surprise that designed versions of the *wayang* figures appear in numerous fields of applied arts and bear the trademark of high quality products without exception.

14.10-14.30 Csaba HEGYI (Pécs University, Hungary): Face of God on the Hungarian ornament
http://www.doktori.hu/index.php?menuid=192&sz_ID=8275

The uneasy symbiosis between evil eye and beauty that has characterized some aspects of Hungarian folk ornaments. Traditional and modern Hungarian textile motifs, cross-stitch embroidery and digital pixel images. Mosaic pictures and icon paintings in relation to the age of digital photography. Deep understanding of aniconism over idolatry and iconoclasm. Axis and fields and the hyperbolic geometry as symbolic form. Some pictures: aquarelles of József Huszka; homespun of Erzsébet Bódis and Erzsébet Kozma; drawings of Béla Veszelszky; “photo mosaics” of Miklós Erdély; paintings of Dezső Korniss and Ilona Keserü Ilona.

14.30-14.50 János SAXON SZÁSZ (MADI, Hungary): Sacral Geometry – From immaterialisation to polydimensional fields

<http://www.mobil-madi.hu/>

In order to get an idea of immaterialisation, we may set up a logical experiment: If there is a set of planes made up by at least two other sets of planes that in turn include two further sets of planes each, and so forth ad infinitum, then we may witness the termination of the plane as a form, as it becomes a set of points. If, on the other hand, we take space, then the same process leads to the depletion of space or an object, and the substance, after reaching a density of infinite fineness, is transformed in our mind definitively. This complete transfiguration, this absolutely transparent state, I could only model in painting by using such elements as even in themselves represent the supremacy of pure sensation. Thus two basic suprematist elements, the square and the cross through which the square is divided into four parts, have served as points of departure. In this case, the square bears a yellow colour symbolising existence, whereas its opposite, the cross is characterised by a white tone that creates an impression of emptiness. I must mention that to me the yellow colour in relation to white reflects the sensations of being and non-being, something and nothing, in a more vivid contrast than, say, black and white would do. During the construction of the picture, i.e. the deconstruction of the yellow square, I came to sense total depletion, or, more precisely, to set up a polydimensional net. The net that connects micro- and macro-worlds, is the virtualisation of an absolute mind which, stretched in infinite dimension structures as a hyper-filter, incessantly attempts to jettison the imperfect objects (yellow squares) of existence from its “body”. I made my first moves with real figures on the real squares of Dimension Chess while creating a relative sense of space between different dimension structures. After the completion of my work, I sank onto a sixteen- or sixty-four... legged dimension chair, and, after having taken a short rest, it occurred to me that this game does not follow the usual stereotypes. The chess table lying in front of me is a polydimensional field, practically the horizontal projection of the micro- and macro-world’s vertical texture. One of the figures lined up is me, and I can move about in the unfolding polyuniverse freely, by disposing of the parameters of the actual dimensions at every single move.

14.50-15.00 Break

15.00-15.20 Eleonóra STETTNER (Kaposvár University, Hungary): Symmetries and Dissymetries in the figural representation art

15.20-15.40 Slavik V. JABLAN (Mathematical Institute of Belgrade, Serbia): Visual Communication through Visual Mathematics

<http://members.tripod.com/vismath/>

We present some possibilities how different areas of visual mathematics (symmetry in art and science, isometric symmetry groups, similarity symmetry, modularity, antisymmetry, tessellations, theory of proportions, theory of visual perception, perspective, anamorphoses, visual illusions, ethnomathematics, mirror curves, op-tiles, fractal structures) can be used as a tool of visual communication. The paper also contains (in parts) a description of the course “Visual Mathematics and Design” organized at the Faculty of Information Technologies (Belgrade).

15.40-16.00 László VÖRÖS (Pécs University, Hungary): 3D-models of multidimensional cubes, space-filling and plain mosaics

http://epitesz.pmmk.pte.hu/tervezesi_es_epiteszeti_ismeretek_tanszek/oktato_k_tervezes/voros_laszlo

16.00-16.20 Zoltán GYÖRFI and József MOLNÁR (eRAD Europe): Constructing the Straight Edge

www.erad.com

In Geometries the straight lines and the circles seem to be a priori given either logically or even physically. When, however, one models a Geometry within another one, the straight edge and the compasses must be provided via special constructions. The „Anschauung” of a geometry is emanating from this our choice for the construction tools. One may think, mistakenly of course, that the Euclidean basics are different: those are not constructed, but are God given; a priori. In art the Anschauung is obviously determined by the artist's choice for their construction tools. Do not think of brushes or chisels or engravers; think of the *style*, a tool set that we can hardly define precisely. However, in geometry the tool set for expressing the geometer's views seems to be easy to define: The geometric Anschauung depends on our choice for the straight edge and the compasses. Kant suggested that there was no choice: some tools must be a priori given, everything else can be constructed. Accordingly, the missing base-Anschauung is given by the constructions themselves. That is, within the Kantian framework the construction of the tools is a meaningless concept. Our goal is to show that even the basic tools *are* constructed within another Anschauung. The final conclusion is that Geometries just like artistic styles are embedded in each other. No God given beginnings can be identified. The anschauliche example we use is a novel (physical) model of the hyperbolic plane in which we construct an Euclidean model. Then, within this new Anschauung we construct the hyperbolic tool set with which the Euclidean one can be reconstructed, and in that the hyperbolic plane constructs itself again, and so on, and on, and on...

16.20-16.40 A. Devrim İŞIKKAYA (Bahçeşehir University Faculty of Architecture and Design,

Törökország): An Evaluation on Architectural Design as a Geometrical Concept of Space and Events

<http://www.metropolistanbul.com/public/kisi.aspx?kkid=1295>

Space, as a 3D designed object, has always been open to interpretation as a product, a symbol of power of the development process of civilizations. In this context, architecture has also the mission to bring out the volumes of power - power of volumes beside the organization of the spaces according to the anticipated certain functions, by using the certain geometrical layouts, composed in symmetrical, asymmetrical, hierarchical or chaotical orders in a chronological course. Especially during the last quarter of the 20th century, architecture kept trying to construct new conceptions of geometries based on the scenario, consisted of events, which form space physically (architecture as an organisation of the combinations of the geometry of movements, events and scenario, which determined the form of space). In this sense, space is transforming from a physical, limited, static, certain geometric form to an unlimited, dynamic, changeable, non-geometrical or geometry of unlimited possibilities (digitalspace), perceptual montage of the user's knowledge (a chain of personal kinetic experiences). The edges of the geometry of common space is becoming blurry, but the space of individual perception and commentary gets sharpen (space as nonspace). This presentation is an abridgement of an evaluation on geometries used in architectural design in the context of space – programme (events) relationships.

16.40-17.00 András KAPITÁNY (independent artist, Hungary): Building as Sculpture / Sculpture as Building

<http://www.c3.hu/events/98/kapitany/>

17.00-17.10 Discussion

17.10-17.30 Break

17.30-18.40 Art and Science – Creativity, Game and Innovation in the School

Chair: Eleonóra STETTNER (Kaposvár University, Hungary)

17.30-17.50 Sándor KLEIN (Pécs University, Hungary): Developing thinking and personality

<http://feek.pte.hu/kozep/index.php?ulink=224>

17.50-18.10 KOVÁCS Gábor (Apáczai Csere János Educational Centre, Hungary): The perception of images and our way of life: thoughts on imagination and visual education

18.10-18.30 DÁRDAI Zsuzsa (MADI): The SAXON: POLY-UNIVERSE – knowledge produce toy collection

<http://www.mobil-madi.hu/>

The collection 'POLY-UNIVERSE' conveys the general presence of geometry in the range of educational and free time activities. Having a direct, by-touch connection with the geometric shapes, the sense of vision and of touch are developing and through the recognition of correlations and finding the linkage points, the ability of thinking improves and the skill of abstraction evolves. The collection 'POLY-UNIVERSE' is a *GOOD TOY*. It encourages deep thinking and acquiring the feeling of freedom and joy at any level of knowledge of human age and at the same time it arouses thirst for knowledge, develops creativity, opens personality and results in a complex world view.

18.30-18.40 Discussion

Dómmúzeum:

19.30 Lessons in Perspective - the opening of István OROSZ's exhibition

<http://www.utisz.net/>

Opening by George W. HART (USA), research professor of Stony Brook University, New York (USA), Bridges Organization. Contributing by organ: Katalin POÓR GÁL (performing Johann Sebastian Bach: Kleines Harmonisches Labyrinth).

The exhibition is open 18-29 June.

Barbican (In the event of rain: Dominikánus House)

21.00 Concert by the Ávéd-Fenyvesi Jazz Quartet with projection by András KAPITÁNY

Culture Garden

22.00 Encounters: Tower of Seven and The Rooster

In the framework of the Pécs – Ars GEometrica 2009: Art In Progress

The exhibition is open 18 June – 8 July.

Organized in cooperation with the Pécs/Sopianae Heritage Ltd. and the Pécs Cultural Centre.

19th June, Friday:

Dominikánus Ház:

10.00-15.20 Art and Science - Creativity and Innovation in the Exhibition Hall

Chairs: György DARVAS (Symmetrion, Hungary) and István LÉNÁRT (Eötvös Lóránd University, Hungary)

10.00-10.20 George W. HART research professor of the Stony Brook University, New York (USA), Bridges Organization: Mathematical Sculpture

www.georgehart.com/

Sculptor/mathematician George W. Hart will show images of some of his mathematically informed sculptures. Also shown will be brief videos of the assembly of some larger commissions: a six-foot sculpture constructed from 642 CDROMs in the Computer Science building at U.C. Berkeley, and a five-foot sculpture constructed at a community "barn raising" event, at the Northport Public Library,

and a "Salamanders" sculpture assembled by a group of students when he was artist in residence at MIT, and a 30-meter sculpture at Albion College.

10.20-10.50 Ole LISLERUD (Oslo National Academy of the Arts, Norway): New Perspectives - Ceramics and Architecture

www.olelislud.com/

One of the most distinct developments during the last two decades, in contemporary ceramics, is that the material no longer is confined to traditional interpretations of scale. The boundaries of the coffee table format has been broken. Large scale ceramic art work has redefined itself with regards to site specific work as sculpture, wallworks in architecture and as a – skin - on the facade of architecture itself. In doing so ceramics is discovering its roots and reinventing it. The other distinct change is the use of digital technology which has had a profound input in developing the artistic and conceptual approach to working on ceramic surfaces. Through photography and silkscreen printing techniques, digital technology has given new life to the age old ceramic art. The lecture will focus on these developments and present projects that exemplify the development. Furthermore different architectural proposals incorporating ceramic art will be presented together with the work of several world acclaimed artists.

10.50-11.10 András MENGYÁN (independent artist, Hungary): Imagined and perceptible visual forming of space

http://hu.wikipedia.org/wiki/Mengy%C3%A1n_Andr%C3%A1s

11.10-11.30 Antal KELLE (ArtFormer Studio, Hungary): Interactive art objects

<http://www.artformer.com/>

A drop falling into water creates waves, snails make spiral houses, things change due to external and/or internal influences. We, people, like to think about these actively, to compare what we see with our knowledge to that point. Some of us dwell on things philosophically, others look for rational explanations, or just simply enjoy the pleasure of recognition, the rhythm of motor movements. The meditative approach to objects and events raises us out of our normal lives. My ArtFormer objects are devices that, due to a certain aspect they have that is different, they offer themselves for you to get to know them, to re-evaluate them, persons playing with them are not restricted in advance by written rules, and primarily they do not oblige you to beat each other. No only is it your simple manual activity, but the joint activity and dialogue carried out with your

partner that can inspire you to deeper thought. While you can only view a traditional work of art statically, my works invite you to participate. My objects made with ArtFormer approach, integrate artistic and formal contents.

11.30-11.40 Break

11.40-12.00 Nuria JUNCOSA (independent artist, The Netherlands): Abstract reasoning. A mathematical approach to art

<http://www.la-nuria.com/>

The meaning of the word abstract when applied to art means that the content depends on the intrinsic form rather than on the pictorial representation. The word abstract is not meant to be used for vague visualisations but is meant to represent abstract reasoning. When a summary is given about an abstraction it is expected to be a logical and detailed explanation of the summary. The same can be expected from a painting. The main subject of my artwork is abstract reasoning and mathematics are a great source of inspiration to visualize abstractions. In some of my works, the pictorial field is a structured field. Patterns, modularity, symmetries, relationships and other complexities are the building abstract elements. In other works the pictorial field reaches outside the canvas. Lines, curves and proportionality are then the constants. The other subject matter in my art work is the colour function, often forming the basis for many compositions making use of colour rhythms, complementarities, transformations or colour values.

12.00-12.20 Katalin HAÁSZ (independent artist, Hungary): The Möbius strip as composition

http://artportal.hu/lexikon/muveszek/haasz_katalin

12.20-12.40 Seval ŞENER (independent artist, Turkey): Another Order of the Things

www.saatchi-gallery.co.uk/stuart/StudentArt/ast_id/18186

Within the lens of seeing, basic features of miniature and its space organization is the subject of my presentation. Because of the difference between the space organization of miniature and Renaissance's space organization, I believe that miniature requires another way of seeing. The difference stems from the Renaissance's classical perspective and miniature's multi-point accumulated perspective.

12.40-13.00 Anna BARÓTHY (independent artist, Hungary): "B"-timed visual equation

<http://szovetseg39.blogspot.com/>

13.00-14.00 Reception and Lunch in the Dominikanus House for the registered participants of Pécs Ars GEometrica 2009

14.00-14.20 Christina PEEL (independent artist, Norway): Darkness reveals
<http://www.christinapeel.com/>

I would like to focus my lecture on my recent work, which involves working with the changing aspects from light to darkness - invisible to visible. After I spent three months working in Japan in the fall of 2007, I discovered a fluorescent ceramic pigment that is almost invisible in normal light, but at the same time the light has the capacity to charge the images to enable them to shine on alone in the dark. When the room goes dark the eye gradually adjusts to the new image and allures the viewer into another space. This effect is also activated during normal light by limiting the light-source to a small hand-held black light tube manipulated and controlled by the viewer. Thematically my work revolves around creation mythology, mysticism, religious iconography and ritual symbolism.

14.20-14.40 István BÖSZÖRMÉNYI (Pécs Art High School, Hungary): Is it the stone a suitable material for sculpture-making?

14.40-15.00 Ferhan KIZILTEPE (mathematician and independent artist, Turkey – professional consultant of PAGE 2009):
www.ferhankiziltepe.com/

Coincidence and chaos; these two words have been interesting in any case. Scientists, artists, sociologist and poets and so on; a lot of people have worked on these two concepts, put their descriptions on. I will join them too and with my presentation, and I will try to put forward an idea on these two words and try to look and write our Dada poem with all participants.

15.00-15.10 György DARVAS (Symmetrion, Hungary): Presentation of the Symmetry: Culture and Science international journal

15.10-15.20 Discussion

15.20-15.30 Break

15.30-17.30 Ars Metrica – Music of the Spheres

Chair: Slavik V. JABLAN (Mathematical Institute of Belgrade, Serbia)

15.30-15.50 István Jenő SZABÓ (Kossuth Lajos Technical College, Hungary): Harmonies of the world. Relations of arithmetic, geometry, music, mechanics and astronomy in Pythagoras', Galilei's and Kepler's works

In his work „Harmonices mundi” (1619) Johannes Kepler brings to life the ideas of Pythagoras and Platon who have studied the existing natural ratios that create the perfection of the world. Kepler extends this idea to the results of his studies about the movement of the planets. The presentation will review this process: first presenting the fundamentals of the antiquity (Pythagoras), followed by the music theory of the renaissance (Vincenzo Galilei), and the scales of the planets as the main focus of the presentation (Kepler), and finally the mechanical modelling of the harmonies (Galileo Galilei). The presentation will be illustrated by pictures of original documents from the renaissance era and the sound of a renaissance lute.

15.50-16.20 Zoltán GÖNCZ (Wesley Janos Clerical College, Hungary): Bach and the geometry of eternity

<http://www.gramofon.hu/index.php?page=news&xxhir001=09610Ck0xxhir001>

Several attempts have been made to complete the unfinished quadruple-fugue (*Contrapunctus 14*) of Johann Sebastian Bach's last work, *The Art of Fugue*. These attempts at completion have frequently been based on arbitrarily conceived symmetrical plans and have unfortunately yielded little convincing results in musical respect. Nevertheless, the rejection of the principle of symmetry as a preconception and putting, at the same time, musical-contrapuntal aspects into the centre has paradoxically put forth a so far inconceivably complex (and even in Bach's oeuvre unique) – *symmetrical* basic structure. The real importance of the evolvement of this multiple recursive, fractal geometrical structure is that it reveals that this seemingly profane cycle by Bach, the almost timeless musicality of the composition is rooted, in fact, deep in the *sacred*.

16.20-16.40 Sándor VÁLY (independent artist, Finland) and Éva POLGÁR (musician, Finland): Bruegel Variations

<http://valy.tenger.hu/>

<http://www.polgareva.hu/>

16.40-17.00 Vi' HART (vihart.com, USA): Mixing Mathematics and Music

<http://vihart.com/>

Music and mathematics have been informing and inspiring each other for centuries. In this talk, I will clarify the differences between using mathematics to analyze music, analyzing the mathematics found in music, the algorithmic creation of music, and artistically mixing mathematics and music. What I am most interested in is balancing mathematics with the artistic process of composing. I will

be presenting different ways I have found of composing music which combines mathematical and musical creativity.

17.00-17.20 Balázs KOVÁCS (Pécs University, Hungary): The impossibility of the geometrical hearing

<http://www.art.pte.hu/menu/92>

By researching the auditory display it seems as a temporary the problem that the results of the event-based sonification can barely associated with the representation of visual data. The musicology in classical sense formulated the question through the analysis of musical works about the hearing of the time domain forms, catalized the development of the vertical – perceptual level – listening. The centrum of the questions is also that the phenomenological properties and the potential or inpotential for mediality of hearing could make possible the mapping of visual senses and non-verbal communication? The easy answer – no – could be pretended the other question: would the process be assisted with the adaptivity or the interactive method in sonification? We can assume, that by planning a heteronomous system can activate the organic, the visually and linguistic independent communication by the activism of hearing and the participation of the subject.

17.20-17.30 Discussion

Dominikánus House:

19.30 Bruegel-variations - contemporary multimedial concert by Sándor VÁLY
(<http://valy.tenger.hu/>) and Éva POLGÁR (<http://www.polgareva.hu/>)
www.myspace.com/bruegelvariations

20th June, Saturday:

Dominikánus House:

Narratives, Games and Simulation in the Digital Media Symposium

Chairs: Kristóf FENYVESI (Jyväskylä University, Pécs University, PAGE 2009) és Miklós Kiss (Groningen University, The Netherlands)

10.00-10.10 Welcome words: Beáta Thomka (Pécs University, Hungary)

10.10-10.30 Introduction: Kristóf FENYVESI (JyU, PU, PAGE 2009) and Miklós KISS (Groningen University, The Netherlands): Possible Narrations – Narrative Possibilities: From Narratology to Ludology

The initial idea of the present symposium (*Narratives, Games and Simulation in the Digital Media*) is to introduce an anthology (published in 2008 by the Kijarat Publishing House). The 7th edition of the deservedly acclaimed Hungarian academic series called *Narratívák (Narratives)* is aiming to bridge some gaps between the traditional narrative theories and the digital media's, more precisely the game studies' ludologist ideas. Although the collection of texts pays off a painful deficit still present on the Hungarian theoretical discourse, the problems, assertions and substantial questions behind the opposition are far not innocent within the ludologist literature. Accordingly our anthology introduces the debate's most influential participants along with their already proven arguments, moreover at the same time the compilation tries to display further consequences inherent these conclusions. The symposium tries to clamber up to this train of thoughts re-evaluating and widening the traditional text-centered analyzing methods, likewise dealing with new medium-specific questions, terms and theories, such as the adaptational, immersive, emotional, cognitive, simulative aspects within the boundaries of the digital media.

10.30-10.50 Markku ESKELINEN Jyväskylä University, Finland): Heuristic frameworks in digital media studies

<http://www.wsoy.fi/index.jsp?c=/author&id=34&categoryId=1>

<http://cybertext.hum.jyu.fi/>

I base my lecture on two important heuristic frameworks that have emerged in the studies of digital media during the last 15 years: cybertext theory and ludology. The former approaches texts as machines (consisting of strings of signs, an operator, and a material medium), shifts the focus on what a medium is to what it does and is capable of situating every text in its continuum of several hundred media positions based on how its medium functions. This theory also breaks free from the dichotomy of print and digital that breaks down under closer scrutiny (giving room for interesting overlaps) and is therefore not only a useful or dangerous supplement to hegemonic theories of literature (in theorising the aspects they tend to ignore or take for granted) but also an effective way of testing, expanding, and revising even the basic presuppositions of them. The first part of my lecture draws several theoretical and practical (artistic) conclusions from this (related to transtextuality, transmediality, temporal dynamics, narratology, interactivity, and textual instruments among other things). In the latter half of my lecture I move away from cybertext theory and ergodic literature it foregrounds towards the equally multi-faceted heuristics of ludology that emancipated the study of digital games from the limited perspectives of psychological effects studies and narrative theory.

10.50-11.10 Raine KOSKIMAA (Jyväskylä University, Finland): In Search of Time Simulated

<http://www.jyu.fi/hum/laitokset/taiku/en/subjects/dgl>

<http://cybertext.hum.jyu.fi/>

Time is one of the central dimensions of simulation, even though it often serves as a challenge to overcome: in a simulation long periods of time, even billions of years (as in cosmological simulations), may be reduced to minutes. In other cases it is of utmost importance to render the simulation as temporally realistically as possible, as is the case with flight training simulators. As should be clear from these extreme examples, simulated time is highly flexible, it is one of the variables to experiment with in the simulation. Games are a specific class of simulations, where time also figures as a game element, it poses challenges and limitations to the player. Narratives, according to the Aristotelian tradition, are imitation of human activity. In more modern framework we may consider narratives not only as imitation, but also as simulation of activities. In my presentation I will focus on digital media works which employ aspects of simulation, play and narration, and which highlight the temporality of existence and experience. Special emphasis is laid on the fact that digital media offers tools for extremely precise temporal control, and that the system time of a micro-processor functions in wholly different scale than the human cognition.

11.10-11.30 Gábor Zoltán KISS (Institute for Literary Studies of Hungarian Academy of Sciences, Hungary): Emotion in Videogames – Are We There Yet?

Games aren't here to pull our heart strings. However, lead game designers are convinced that the greatest story ever told is going to be in a computer game, and it may happen in our lifetime. There are several problems with the enthusiasm the industry leaders represent, of course. When we talk about videogames we tend to forget that we talk about a medium much less accessible to its potential audience, even to its core audience, than other mediums. (Not to mention our doubts about the current videogame stories in general). Maybe the problem isn't that videogame stories are immature or inaccessible, but that their audience can't read the subtle workings they offer. To answer the question - 'are we there yet' - we have to look into these deeper (kinetic, performed, and self-referential) stories beyond the obvious ones.

11.30-11.50 Norbert GYURIS (Pécs University, Hungary): “There Can Be Only One” – Protocols of Survival in the Culture of Brutes

Game studies have mostly concentrated on how electronic or computer games offer new approaches

to their formal, structural, hermeneutic etc. evaluation. Less emphasis is placed on the politics of computer games, let alone the fact that computer games are symptomatic of the more and more virtualized cultural practices and institutions. By way of the allegoric reading of a flash game, the paper proposes that cultural practices and the resulting behavior patterns available for the individual are much more restricted than the basic tenets of democracy suggest.

11.50-12.00 Discussion

PARALLEL SESSION

Small Gallery of Pécs:

10.00-12.00 Presentations by the artists of the OP-TIME / Hommage á Vasarely Exhibition (Linda Arts, Benedek Barna, Ditty Ketting, Wolsky András)

In the framework of Pécs – Ars GEometrica 2009: Art in Progress

Barna BENEDEK (Pécs University, Hungary): Tabula Rasa

http://www.monogaleria.hu/hu/muveszek_benedek.html

András WOLSKY (independent artist, Hungary): Geometry, organized by accident

<http://kultura.hu/main.php?folderID=950&articleID=254123&ctag=articlelist&iid=1>

All of my paintings are produced on the basis of systems. These systems are open in one direction, embracing the arbitrary. The work of creation itself – as deed and as result – makes visible as a picture the combination of system and chance. In other words, the construction of every picture has a known and an unknown part. The confrontation of these two parts leads to the resulting visible pictorial structure. One part is predictable, foreseeable, and measurable, while the other part is unpredictable, unforeseeable, and unmeasurable. On their own, each is only a part: they only become complete together. The predictable is itself the fundament in which the unpredictable can unveil itself. The basis (the system) makes the arbitrary beholdable, touchable. A sort of geometrical order is formed in my paintings, whose order is created by chance. At this point the question arises as to where the border of this order lies and where the unordered begins. Where is the border of the predictable and where does the unpredictable begin? Can a process which leaves room for the unpredictable be regarded as systematic? And perhaps the most important question: whether a process can be regarded as a real work of art which leaves open part of the act of creation to chance to its formation?

12.00-13.30 Lunch Break

14.00-20.00 Promenade square, under the shady chestnut trees (In the event of rain:

Dominikánus House):

Pécs – Ars GEometrica 2009 Open Air! – Art and Science, Creativity and Innovation out in the Open Air

Open Air Workshops led by the presenters of PAGE 2009

14.00 – 18.00 EAST-WEST ARABESQUE Ceramic Design Workshop

Supported by the Zsolnay Porcelain Factory

Workshop leaders: Seval SENER and Nejla ALATAS (Turkey)

**14.30 George W. HART research professor – Stony Brook University, New York (USA),
Bridges Organization: Paper Geometric Constructions**

Participants will cut out paper pieces which are then assembled into a colorful geometric ball. The construction is trickier than it looks, requiring precise logical thinking to arrange the colors correctly. The result illustrates mathematical principles of polyhedral symmetry in the form of a colorful artwork.

**15.00 Zsuzsa DÁRDAI (MADI): Interactive presentation of the
“SAXON:POLIUNIVERZUM” toy collection**

The collection 'POLY-UNIVERSE' conveys the general presence of geometry in the range of educational and free time activities. Having a direct, by-touch connection with the geometric shapes, the sense of vision and of touch are developing and through the recognition of correlations and finding the linkage points, the ability of thinking improves and the skill of abstraction evolves. The collection 'POLY-UNIVERSE' is a *GOOD TOY*.

**16.00 Ferhan KIZILTEPE mathematician, independent artist, professional consultant of
PAGE 2009 (Turkey): Construct Your Paper Surface**

This will be a MathArt workshop. There will be a short presentation about the plan, space, dimension and some technical details about the materials.

**16.30 – 17.00 Slavik JABLAN (Mathematical Institute of Belgrade, Serbia): OpTiles,
SpaceTiles, KnotTiles - presentation**

In this presentation will be shown different kind of modular tiles for producing modular images or modular games (see <http://www.mi.sanu.ac.yu/vismath/op/tiles/index.html>).

**17.00-17.30 László VÖRÖS (Pécs University, Hungary): 3D-models of multidimensional
cubes, space-filling and plain mosaics – model constructing experiment together with the
students of the Nr. 500 József Angster Vocational School**

**17.30-18.00 István LÉNÁRT (Eötvös Loránd University, Hungary): Bolyai-Lobachevskian
Geometry: Can it be taught – should it be taught in general education? - presentation**

<http://www.lenartgomb.hu/>

Two hundred years ago, Gauss hesitated to publish his discoveries in geometry, because he feared 'the outcry of the Boeotians', his contemporaries against the possibility of different kinds of reasonable geometric systems. Almost two decades ago, A. D. Alexandrov wrote: 'Lobachevskian geometry can hardly be included in secondary school curricula, but it seems essential to give pupils an idea of it, and show them the greatness of the human spirit...' I think that Bolyai-Lobachevskian geometry can be taught even on upper elementary level, not only for the talented few, but for the majority of the class. I try to give outlines of such a method, then try to answer another, just as difficult question: Is this possibility welcomed by education and by the society behind the educational system?

18.00-19.30 THE TERRACOTTA WOMAN: Public conversation with Marian HEYERDAHL (Norway) contemporary artist, the daughter of Thor Heyerdahl

Led by Júlia SIPOS editor of the Hungarian Radio Broadcast Service

19.30-20.00 Pécs – Ars Cinematica 2009 (PACI 2009)

Animation films by Christina Peel: Holy fig I. (5 min); Nuria Juncosa: A Symmetric Dream (4'30 min) and István OROSZ.

Cathedral of Saint Peter – Crypt:

June 20-21.

Attila CSÁJI (International Kepes Association, Hungarian Academy of Art): Agnus Dei – light art environment

http://www.nybiennaleart.org/light_art.htm

21th June, Sunday:

Zsolnay Factory:

10.00-13.00 EAST-WEST ARABESQUE Ceramic Design Workshop

Supported by the Zsolnay Porcelain Factory

Only for registered participants! Registration until 18 June by e-mail:

fenyvesi.kristof@pecsikult.hu

Workshop leader: Ibrahim KUSLU (Turkey) www.frigceramics.com

Title: The production of Traditional Iznik Tiles

The differences between European and Iznik tiles, technically: the composition of materials. The clay mixture contains a high percentage of Quartz, therefore it is difficult to shape it, compared to

the other ceramics. Colour-technics are not the same as like at the European ceramics. European colour technics are above glaze, but Iznik colour technics use underglaze technology. Compared to the European patterns, in Iznik motifs dark black contour lines are used. In Ottoman social life, usually stylized carnations and tulips are used for design. In period of time of the Frigs, they used extend glaze. Iznik tiles are used more in religious places and palaces, while European tiles are used more like in usual pots and pans.

Cella Septichora Visitor Centre:

18.00-20.00 SACRAL GEOMETRY: János SAXON SZÁSZ's (MADI, Hungary) exhibition and the concert of the Sebastian Consort (Hungary)

18.00 Sebastian Consort concert

19.00 SAXON: From immaterialisation to polydimensional fields

In order to get an idea of immaterialisation, we may set up a logical experiment: If there is a set of planes made up by at least two other sets of planes that in turn include two further sets of planes each, and so forth ad infinitum, then we may witness the termination of the plane as a form, as it becomes a set of points. If, on the other hand, we take space, then the same process leads to the depletion of space or an object, and the substance, after reaching a density of infinite fineness, is transformed in our mind definitively. This complete transfiguration, this absolutely transparent state, I could only model in painting by using such elements as even in themselves represent the supremacy of pure sensation. Thus two basic suprematist elements, the square and the cross through which the square is divided into four parts, have served as points of departure. In this case, the square bears a yellow colour symbolising existence, whereas its opposite, the cross is characterised by a white tone that creates an impression of emptiness. I must mention that to me the yellow colour in relation to white reflects the sensations of being and non-being, something and nothing, in a more vivid contrast than, say, black and white would do. During the construction of the picture, i.e. the deconstruction of the yellow square, I came to sense total depletion, or, more precisely, to set up a polydimensional net. The net that connects micro- and macro-worlds, is the virtualisation of an absolute mind which, stretched in infinite dimension structures as a hyper-filter, incessantly attempts to jettison the imperfect objects (yellow squares) of existence from its "body". I made my first moves with real figures on the real squares of Dimension Chess while creating a relative sense of space between different dimension structures. After the completion of my work, I sank onto a sixteen- or sixty-four... legged dimension chair, and, after having taken a short rest, it occurred to me that this game does not follow the usual stereotypes. The chess table lying in front of me is a polydimensional field, practically the horizontal projection of the micro- and macro-world's vertical texture. One of the figures lined up is me, and I can move about in the unfolding polyuniverse freely, by disposing of the parameters of the actual dimensions at every single move.

/János SAXON SZÁSZ/

János SAXON SZÁSZ exhibition is open from 18th June to 5th July.

Organized in cooperation with the Pécs/Sopianae Heritage Ltd. and the Pécs Cultural Centre.

Cathedral of Saint Peter – Crypt:

June 20-21.

**Attila CSÁJI (International Kepes Association, Hungarian Academy of Art): Agnus Dei –
light art environment**

http://www.nybiennaleart.org/light_art.htm

We reserve the right to change the programme!

Programme Information, Contact: fenyvesi.kristof@pecsikult.hu