

# Embedded Art

Andrey Kuznetsov

*Freiburg i.Br.*

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# Content

## Brief history of painting

- main milestones
- the tree of modern art

## New art media and Moore's law

- acrylic and modeling paste
- microcontrollers and sensors
- conductive paint wiring

## Hybrid techniques

- generative art
- interactive art

## What about the future?

- new media
- new paradigms



**Der Winter,**  
2015 (30x20, Installation)

# The history and theory of art

- Cultural artefacts have been created at all times.
- Later generations look with own eyes on artworks earlier created, again and again perceive artworks back that makes the history of art.
- The contemporary artists and viewers put these artifacts over a certain relation to the now day, and just this makes the theory of art.
- This theory (history) of art is then reflected down in the way how artworks are produced now.

Any theory of art is estimated by their ability to answer the crucial questions for their time in relation to the art:

1. What do I have to consider?
2. What does make an artist?
3. How can we distinguish good from bad art?

# Georg Mitrohin and Miguel Covarrubias

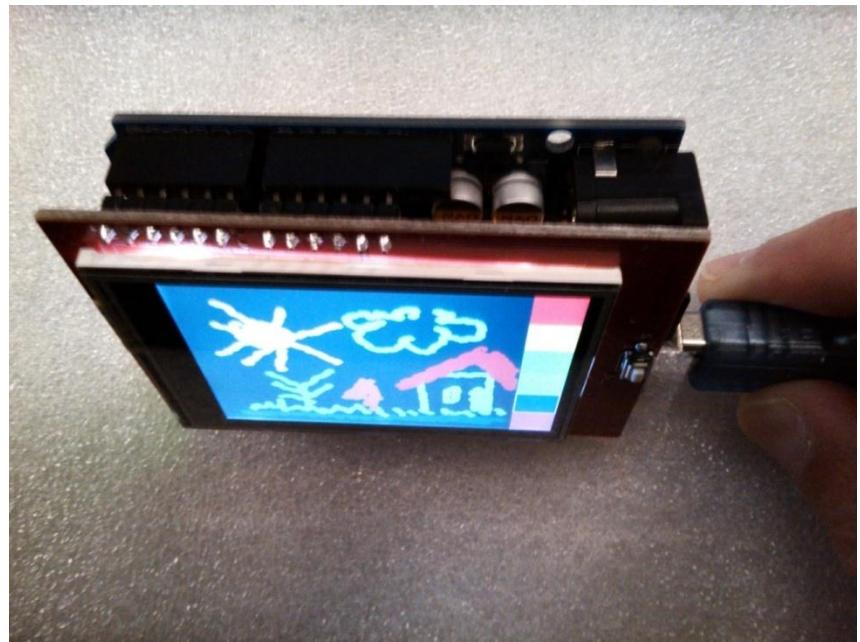
- **Figurative art**
  - romanticism
  - realism
  - impressionism
  - surrealism
  - expressionism
  - cubism
- **Non figurative art**
  - abstractionism
- **Zeitfigurative art**
  - constructivism
  - minimalism
  - conceptualism



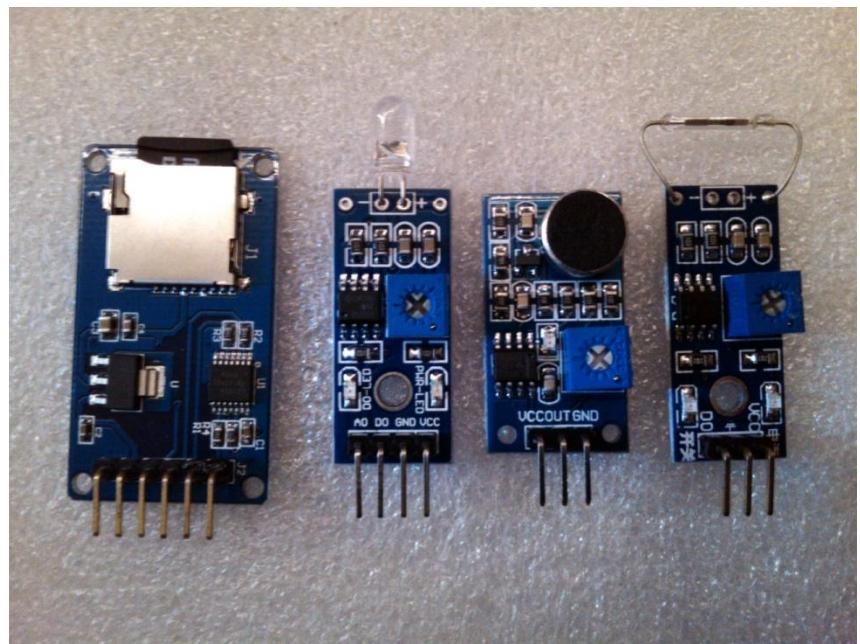
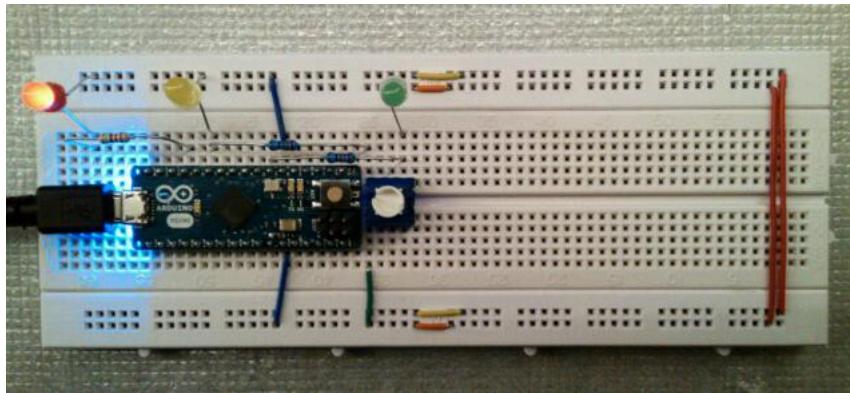
# Painting and embedded electronics



# Make it smaller



# Arduino micro and sensors



# Small canvas

**Alter Baum,**  
2015 (10x10, Acryl)



**Мыс Тигровый, Фиолент,**  
2015 (7x7, акрил)



# Constructivism

**Весёлый кораблик,**  
2015 (15x20, акрил)



**Stealth technology,**  
2015 (21x21, acrylic)

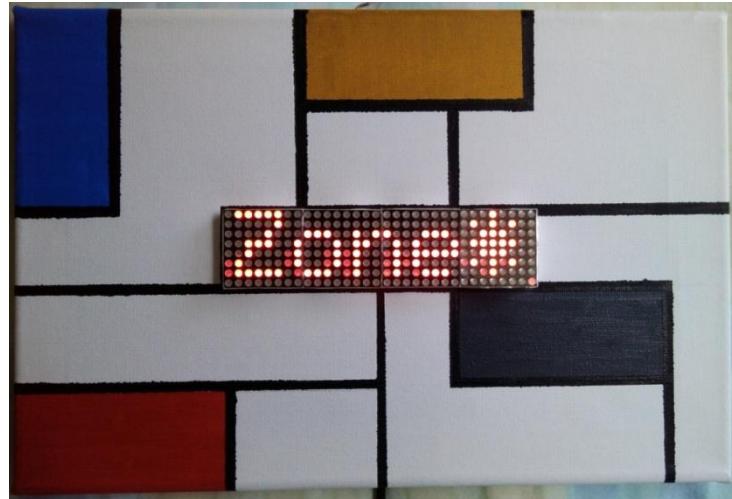


# Abstraction and generative art

**Robin Hood,**  
2015 (24x18, acrylic)

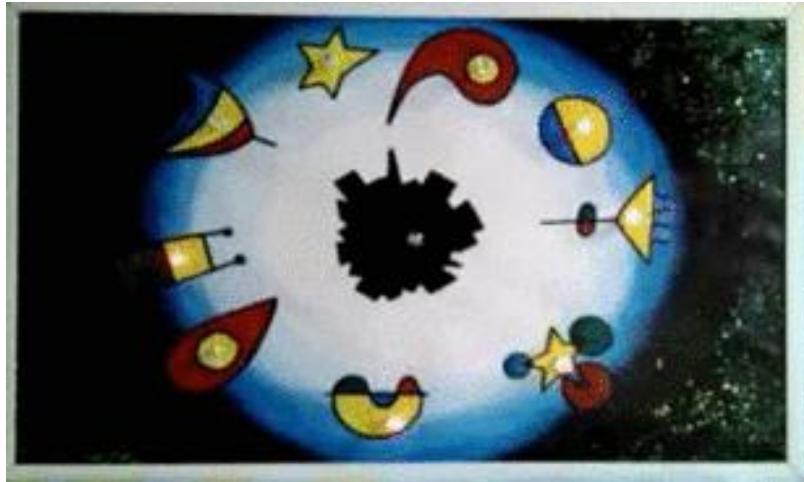


**Matrix,**  
2015 (20x30, installation)



# Space

**Habitable zone,**  
2015 (20x30, acrylic, LEDs)

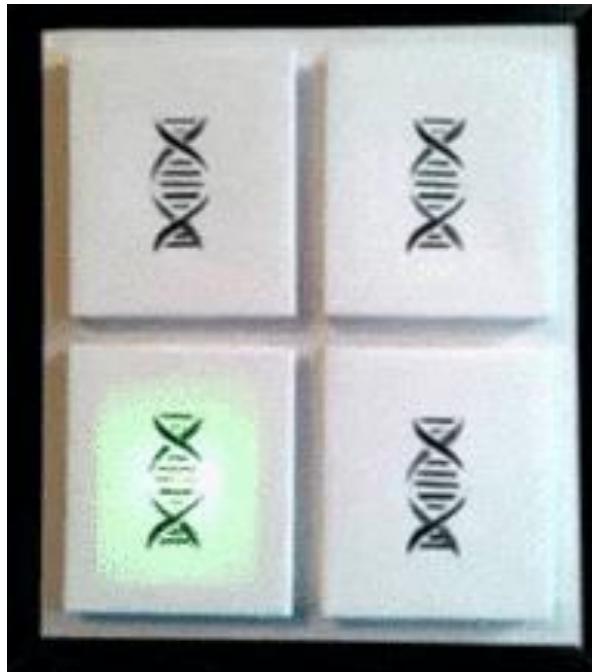


**Mars exploration,**  
2015 (21x29, acrylic, LEDs)



# Biology

**Replication,**  
2015 (25x20, installation)



**Synthetic biology,**  
2015 (52x36, acrylic, LEDs)



# Interactive art

**Roten Kreuz,**  
2015 (26x20, Installation)



**Octopus,**  
2015 (27x37, Installation)



# Embedded computing art

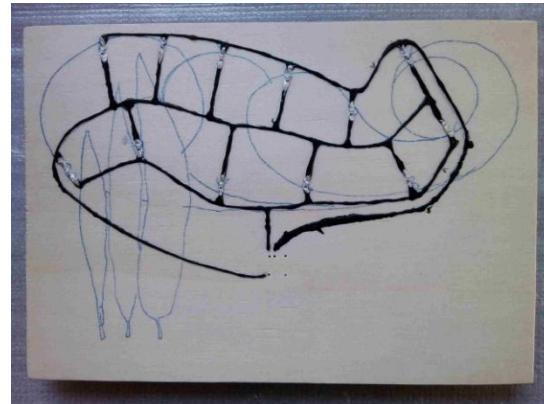
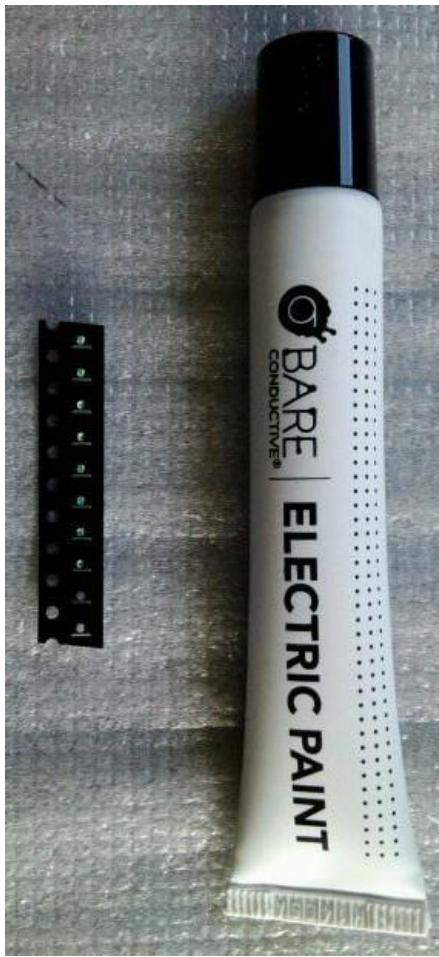
**The house,**  
2016 (21x21, installation)



**It's a sunny day,**  
2016 (30x21, installation)



# Conductive ink



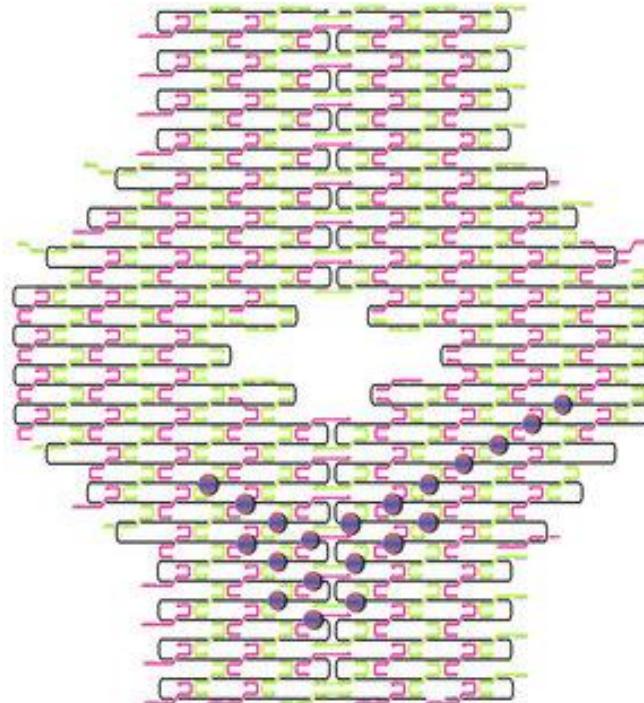
Крым, 2016  
(15x21, акрил, дерево, LEDs)

# Nano art

**Barbie Nanoatelier,**  
2006



**T-Shirt from DNA,**  
2006

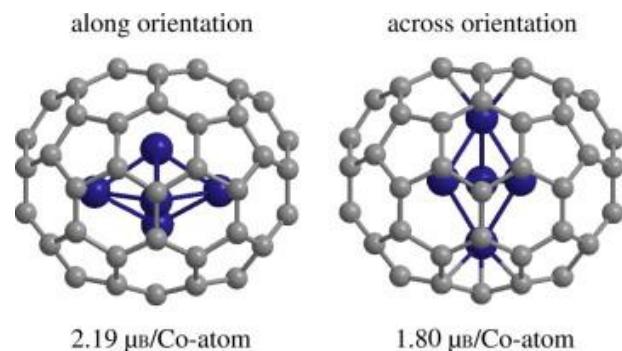


Irina Petrova (2006)

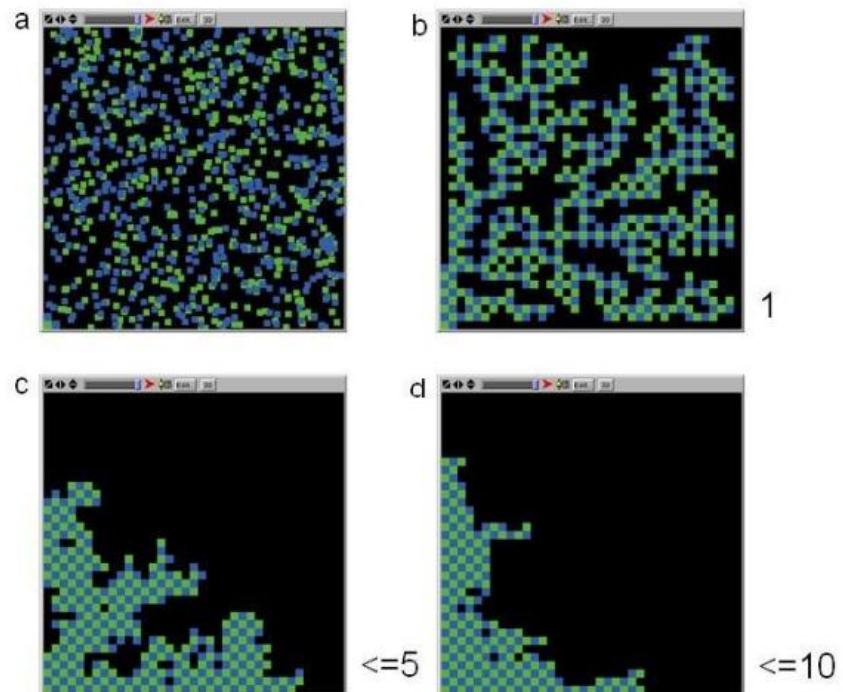
# Art of rules' design

**Cobalt cluster within fullerene in along and across orientations,**

2012

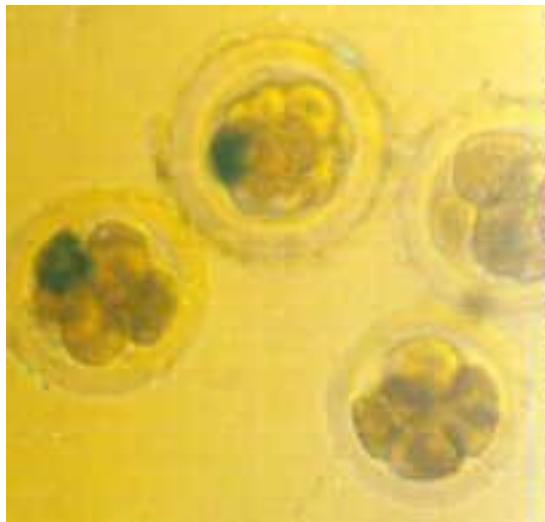


**Chessboard pattern formation by adhesion rules, 2007**



a – initial state, b-d – final states  
with different values of diffusion

# Biological embedded systems?



Rabbit embryos injected with RSV-*lacZ* DNA and stained by X-gal [Gogolevsky et al, 1991]

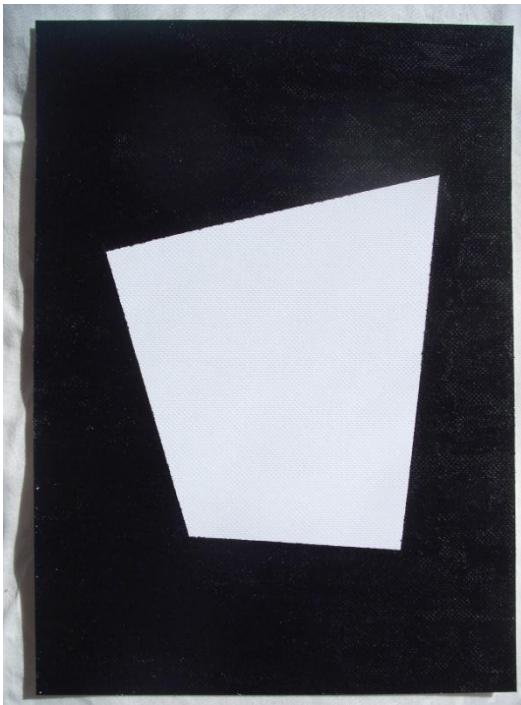


# Links

- Eine künstlerische transzendentale Abhandlung, was der Mensch ist und sein soll / Georg Mitrohin. - Bucuresti : Editura argument MP, ca. (2000). - (66) Bl. : zahlr. Ill.; (dt.) ISBN 973-99504-1-8
- <http://blogs.artinfo.com/lacmonfire/2012/02/13/the-tree-of-art/>
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- <http://invite.c-lab.co.uk/artfromsynbio/#home>
- Kuznetsov A. Barbie nanoatelier // IET Synthetic Biology. 2007. V. 1(1–2). P. 7–12.
- Kuznetsov A. Compositional basis of biological design // International Journal of Modern Engineering Research. 2012. V. 2(5). P. 3190-3200
- Many thanks to Dr. Georg Mitrohin and Dr. Mikhail Kats

# The End

**White and Black,**  
2015 (20x15, acrylic)



**Yellow and Black,**  
2015 (20x15, acrylic)



me: kuznet61@gmail.com