

Mapping New Neural Pathways

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CURATORS WITHOUT BORDERS



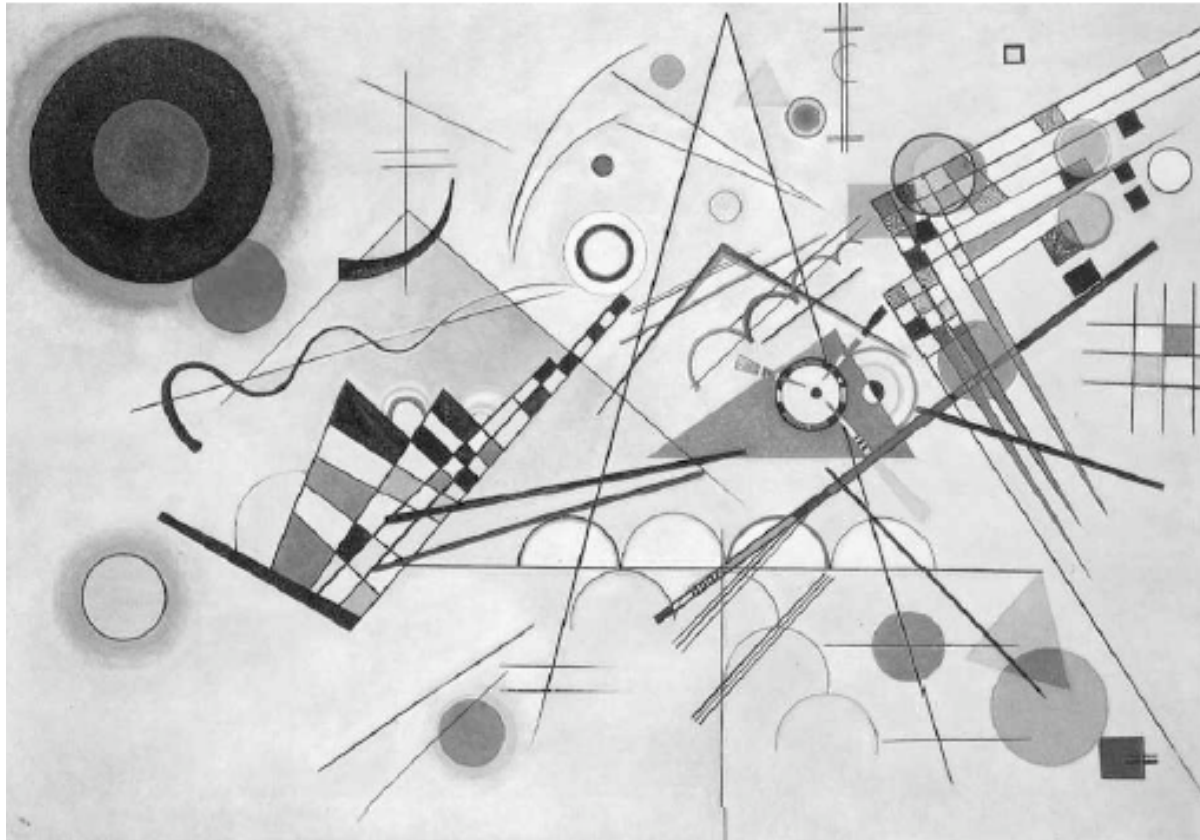
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- Art and culture: a societal **device**
- A **new domain** for Neuroaesthetics
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The logos of form

- Although art and mathematics at a superficial level can be perceived as of very different in nature, both are mainly concerned with symbolic representation of aspects of the surrounding world
- Struggling to **express by abstraction**, the general behind the specific and to **establish the essential and relevant**
[H.K. Jensen]

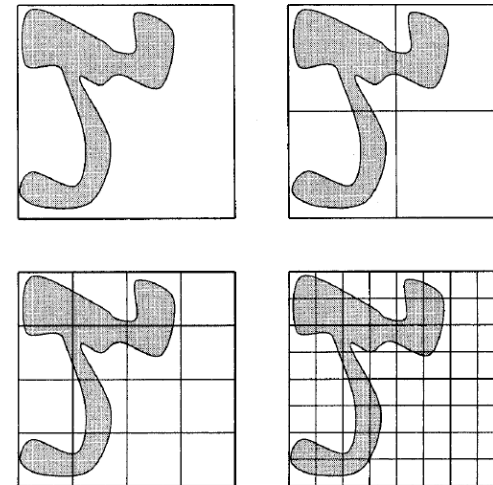
The logos of form



- Kandinsky attempt to establish an axiomatic foundation for the art of painting inspired in Euclides 6 definitions
 - Element, The Geometric Point, The Geometric Line

The logos of form

- Mandelbrot's fractals “explains” Jackson Pollock drip paintings [Taylor]
- Quantitative argument for why Jackson paintings are so attracting to the eye



2 The 'box counting' method, used to establish the fractal dimension of a plane shape

The logos of form

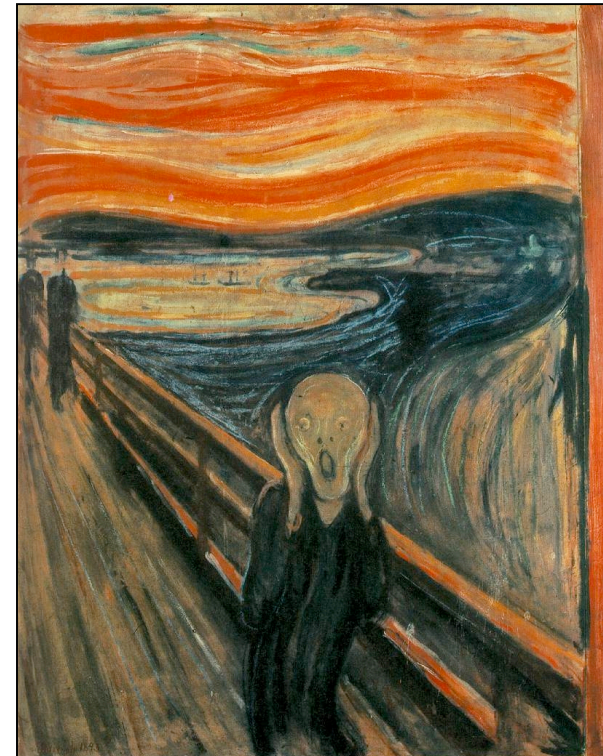
- Human minds with science and the arts, satisfy the basic human impulse to find and describe **patterns**
- The *logos of the forms* applies at all level from cell, molecule, tissue, organ... **societies and their devices**
e.g: Art and the Cultural production

A note on reductionism

$$F_i = m\dot{v}_{C_i},$$
$$N_i = C_i I \dot{\omega}_i + \omega_i \times C_i I \omega_i,$$

Newton euler equation of motion
for a kinematic chain

Both neglect an infinity of aspects...most details are irrelevant



The Scream. E. Munch

Art and culture: a societal device

- Interesting...increments the esthetic pleasure because it adds qualitatively to the observer's appreciation of the artistic content
- BUT these are technical investigations
- Objects do not, in and of themselves, possess aesthetic qualities
- They require a perceiver and **socio-political context** in which the object-observer interaction is produced

A new domain for Neuroaesthetics:

- The role that Neuroaesthetics plays here is not traditional, it aims to expand our understanding of the elusive aspects of aesthetic experience
- We use it here to **explore the relationship between art, technology, and “intense culture” and how this is synchronized** in thought and consciousness within the brain.

A new domain for Neuroaesthetics

- The “**intensive culture**” aims at **exerting** an all encompassing **grip**, **is controlling each and every moment of our waking lives** and infiltrating the psyche’s most remote and private geography, as well as **conditioning every component of our behavior**
- “intensive culture” is in fact re-wiring our brains, undermining our pluralistic civil life

Cultural Production and Social Change



One Year of AZT and One Day of AZT, 1991
collection: National Gallery of Canada

Cultural Production and Social Change

- **Political art** is often charged with achieving the impossible: producing real, tangible change.
- Artists don't pass laws or have a finger on the button, so what can they possibly do to influence governments or dislodge the structures of power?

Cultural Production and Social Change

- **The creative act was not performed by the artist alone;** the spectator was meant to bring the work into contact with the external world by deciphering and interpreting its inner qualifications, **thus adding his contribution to the creative act.**



Cultural Production and Social Change

- Ancient art was all about the show of power – how the Assyrians could crush their opponents or how the Greeks created sophisticated monuments to their democracy
- But early artists weren't looking to upset or question the political status quo

Cultural Production and Social Change

- It wasn't until **after the Renaissance**, with its **emphasis on the individual**, that visual artists fully **realised** how long the **church and state** had been **co-opting their creativity for propaganda** and **decided to take a political stand**

Cultural Production and Social Change: some examples



- Velázquez painted Philip IV in 1656 with such **honesty** that it's possible to see the decline of Spain's empire in his inbred Habsburg features

Cultural Production and Social Change: some examples



William Hogarth
made the Tories
out to be corrupt
and the **English**
upper classes
to be morally
bankrupt.

Cultural Production and Social Change: some examples



- Goya's painting of the common man standing up to the faceless might of the army, 'The Third of May 1808', the first challenging, conflicted and **angry political art**.

Cultural Production and Social Change: some examples

- Picasso
“painting is not done to decorate apartments. It is an instrument of war for attack and defense against the enemy.”



Cultural Production and Social Change: some examples



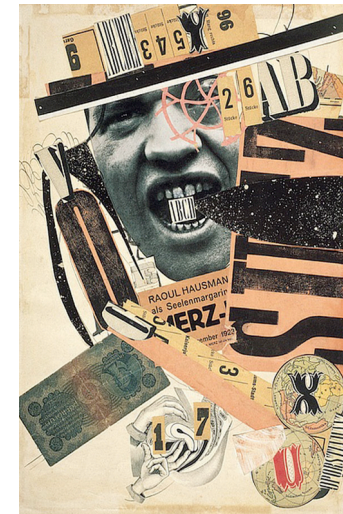
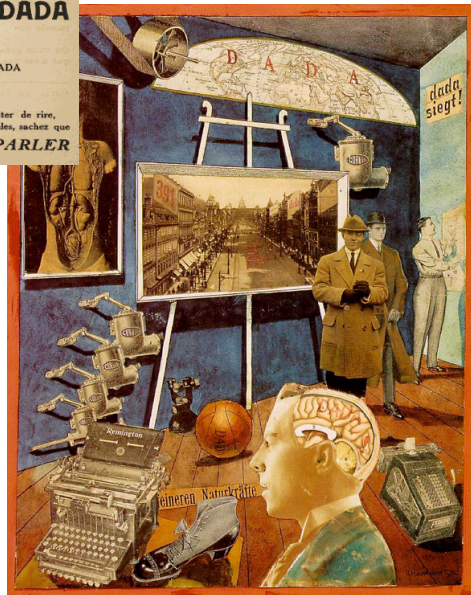
- In the late '50s the **abstract expressionists** were toured around Europe 'The New American Painting', funded by the CIA
Present Americans as free thinking individuals, standing in defiant contrast to the totalitarian threat and its mindless socialist-realist art.

Future research Agenda

- We must investigate **how visual imagery, language, signs and symbols co-exist within these political artworks and put it in the scientific agenda**
- **Ethical issues of controlling the taste and the will of the public**

Future research Agenda

- How Dadaist and Surrealist art creates new modes of perception and how it might function in changing traditional forms of logic within the brain.



Future research Agenda

- **Study the effects of this type of cultural production on the brain using brain scanning techniques of different granularity fMRI, PET... fluorescence techniques, in the same way that the brain's perceptions of light, color and form have been studied within the *traditional* discipline of neuroaesthetics**

Neurobiopower

- **Art and cultural production** must be upheld and promoted in order to **maintain a pluralistic and diverse society** as a **counterpoint** to the monopoly of the **state** and Capitalism.
- **This is a battle being fought in the brain itself**, and if individualism and real liberty and democracy are to survive in our society we must recognize the “totalizing effect” of this dominant force and ensure that we maintain some alternative to it.

Neurobiopower





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