

## Fragments of mental maps

by Tyyne Claudia Pollmann

Thank you for the invitation!

- 1) My name is Tyyne Claudia Pollmann and the title of my lecture is Fragments of mental maps.

I translated this only 2 days ago and this is why I decided to leave the German language on the bottom of the pages. The idioms might be more accurate.

- 2) I will give you three examples of my artistic production. All this will happen with an emphasis on perception.
- 3) At the moment I work out a trans-disciplinary project between Art and Mathematics. You will get two examples from this project.
- 4) The third example will be the film mental mappings, a twin-projection of two animations.

Now first of all you will see a 2.5 min long sequence from one of the two animations called opposite.

- 5) I will show this to you without any comment and without analysis and will come back to it later in the talk.

### *Film opposite*

Now you get a very short theoretic and biographic prologue-

I studied Medicine and Fine Arts. My artistic work has been about the observation of scientific method, structures and mental models which lie underneath scientific action.

I have done several interdisciplinary projects in cooperation between scientists and professionals from other disciplines and came to the conclusion:

- 6) *Science and Art meet in their attempt to create models of reality.*
- 7) *The entire construct of science can be seen as a model, as an attempt to make some statement about reality. This model though just fits the theories, which lie underneath, but does not fit reality.*
- 8) So which basic structures lie underneath the theories?
- 9) This is exactly what I was asking when I decided to start the project stop counting. Mathematics is the basis for any scientific thinking and acting and also the basic structure for our western perception of reality. So stop counting is a project which as the title reveals forgets about the operational routines like addition or multiplication which are about quantitative aspects of amounts. The focus lies on the quality of the relationship, the subject.
- 10) I said this is a trans-disciplinary project: that means it is Dr. Thoralf Chrobok,

a mathematical physician, and me who initiated it. Here on the slide you see also Dan LY, an architect and media designer who sometimes works with us. Our project-space is in a rough area in Berlin-Mitte. We produce Art objects, prototypes for puzzling people and installations. We also invite professionals from other disciplines and are trying to create a platform for meeting and discussing. So what is it all about?

11) You can ask: Which perception is the starting-point for our thoughts?

Or, even worse:

12) Which patterns of thought build the background for our perception?

13) What can we perceive at all?

Which patterns of thoughts do exist, and how do they limitate us?  
What is the background for our perception?

Each idiom can be imagined as a representation, which is bedded in a certain structure,

I will demonstrate you now, how fragile the relationship between representation, information and background actually is and how quickly it is disturbed and how quickly we get stuck. I am going to do this with your help.

14) Here you see wooden boards, on which I painted the numbers from 0 to 9. But the representation of the chiffre was too big for the background: parts of the chiffre overlap the shape and can be seen on the back. These parts are of specific interest, as they are significant - that means, these fragments are sufficient to conclude which number must be on the front.

Which number do you think is on the front of this board?

No....No...

Right!

15) And what do you suggest now?

No....No...

16) Right!

17)

A simple shift in the relation between representation and background wakes it hard to get to the information. You need a transformation to solve this; you have to leave the patterns of number-recognition. But this is the habit, the appearance which you are used to. So this simple example shows you how difficult it actually is to leave these routines of perception.

By the way, children are much quicker with this, as they possibly are not yet so much tracked in the patterns of recognition and as to them a chuffer in a mirrored or upside-down position still represents the number.

But we grown-ups are trapped. This is an example how narrow the patterns are and how quickly we get puzzled if the representation does not accurately fulfil our

expectation and our habits.

This is an ambiguous thing:

Even if it is not as easy as we thought it would be: we are able to draw conclusions from fragments of information.

18) If there are just fragments, we draw conclusions about the rest.  
We fill in the rest.

This is an effort of abstraction, an achievement. But it is also a danger, as we tend to apply the same patterns to various particles and fragments, which remind us of things seen before,

We fill in the gaps with the always same story.

20) This is why it is important to develop a perception for our perception.

Not because it is fun to be sensitive, but because in these patterns implications are stored for all fields of human activity: social, political, technical, scientific and artistic areas, culture.

19) *Perceiving means acting.*

New perception means new ways of seeing and understanding. So we are possibly apt to find new solutions for old problems.

One example for leaving our common routines of thoughts derived from our indulging with Topology.

20) Topology is a Mathematical approach to bodies in space. The system of coordinates created by Descartes is completely ignored, as it is obsolete for this kind of approach. The Topologist not only forgets about the position or location of the objects in space, he also neglects the size of the body. And last but not least, he completely ignores the shape or the design of the body.

The objects are merely distinguished by the amount of wholes they possess, which means how many ways are possible. Objects with the same amount of wholes can be morphed into one another, they are homomorphous.

22) Here you see a number of such shapes. After looking at the slide for a while you might find out that not all of the shapes are different, you might find a shape twice. After a while you might find out that a few shapes appear twice, and later on you will recognize: all shapes appear twice! But there are two exceptions. As we do not have too much time I show you one of them.

Now you see: Ah! - double, double, double ... you get the composition of the work, you see the morph-sequence, the two lines meet.... there. So there you have the second single shape.

In the end it is really simple: the two sequences are mirrored.

But the axis of the mirroring is tilted. Was the axis vertical or horizontal, you would immediately have grasped the pattern of the representation.

But: if it does not meet the routines of perception you do not get it.

23) Its all there, you just don't get it.

That was the second example. Now the third example brings action into the question of perception:

What happens when things *change!*

24) mental mappings

25) The bride stripped bare by her bachelors even mental mappings refers to Einstein and Duchamp, to the theory of relativity and the big glass. Both works were created at approximately the same time - Einstein was a bit earlier and Duchamp new about his theory. Duchamp's work was created in a time span of 12 years. Both were in their way keen on emphasizing perception. The position of the observer and the reference frame were major topics, if not *the* major topics for both.

The big glass is divided into two parts: the male and the female

26) representation change observers point of view

27) I adopted the division into the male and female part, but placed them horizontally on the same height, opposing each other. In practical the spectator is positioned between the projections and can only see either the one or the other projection.

So the animation will become the background for the other.

Deposit is about representation. I took the Duchamp bachelors, every single bachelor is introduced the shapes remain stiff and two dimensional, like cardboard-shape then you see a sequence of short scenes. Here the bachelors move, they try to substitute and eliminate each other in various ways. The shapes remain unchanged, the main and only actions are moving, pushing, shifting, repressing, eliminating, and disintegrating.

On an abstract level the two films *opposite* and *deposit* deal with the perception of space, time, simultaneousness and their correlations

28) In opposite contours of six family members of Einstein appear: Grandpa, Grandma, Father, mother, the two kids and Einstein merge into one another. The first impression of a still is a deception: slowly the fragments of contours move and generate the scenes. The movements cannot be perceived as a whole, as they are too slow and too complex, and so the spectator concentrates on parts, details, fragments.

29) After observing these partial changes the spectator has to re-import them into the whole, which itself has changed in the meantime. This kind of perception produces *delays*: the details have to be reintegrated into the whole, which itself is in constant motion.

The changes of the reference frame like the change of colours of the contours as well as the background remain unnoticed for the longest time and are only seen after the contours have created a completely new scene.

Although all changes are visible and at hand they cannot be perceived and the spectator is forced into an exclusion of information.

opposite is accompanied by a vocal Jodelsong, deposit merely by sparse sounds of action.

The spectator is set between opposite and deposit and by moving his head he mixes his own input of information from both films.

No matter what he does he is stuck in a permanent exclusion of information and an ongoing mixing of the sources of information, as the acoustic components cannot be ignored and always remind the spectator, that something else is going on behind him.

30) Summary

fragments of mental maps

with an emphasis on perception two examples from stop counting and one was mental mappings

patterns of perception gaps of information exclusion of information

On this occasion it would be of strong interest for me to ask or to observe:

31) Which patterns determine our perception of affects, feelings, emotions and sensations?

A very crude and simplified version of an emotional perception could be:

32) I like it. What is it? After having talked and analysed so much I invite you to look at the same scene again and compare your perception with the one you had 20 minutes ago for 2, 5 more minutes.

I thank you for your cooperation and for your attention.

33) opposite