Vilém FLUSSER
(1920–1991)
The black box
Vilém Flusser

Into the Universe of Technical Images

Translated by Renske Van Meijl
Introduction by Mark Poole
Flusser, *Towards a Philosophy of Photography*.

The essay uses photographic camera to develop a “general analysis of apparatus” in the age of the “technical image”.
1. The technical image
Every society has people specializing in symbol manipulation:

- Poets, painters, musicians
- Architects, accountants
- Planners, architects
In a post-industrial society, symbol manipulation becomes more important than other kinds of productive work.
An apparatus is a human-made artifact that is used to "create, process, and store symbols".

An apparatus is a "carrier of information".
An apparatus has been designed using a scientific/mathematical theory.
Flusser’s main example is photography.

\[ \begin{aligned} 
H &= \text{actual height of can} \\
D &= \text{distance between cans} \\
C_1 &= \text{measured height of front can on photo} \\
C_2 &= \text{measured height of rear can on photo} \\
\text{lens focal length (horizontal)} &= \frac{665.5}{\arctan\left(\frac{C_1}{C_2} \times \frac{H}{D} - H\right)} \\
\text{lens focal length (vertical)} &= \frac{998.25}{\arctan\left(\frac{C_1}{C_2} \times \frac{H}{D} - H\right)} 
\end{aligned} \]
• “A photograph is an image of concepts”.
  – The photograph of a green object is an image of the concept “green” that occurs in optical and chemical theories.
The camera is “programmed to translate this concept into the image.”
Technical image

An image produced by an apparatus (i.e., by the application of scientific theory).

Examples:
- Photographs
- Movies
- TV images
- X-rays
- Computer generated images
A technical image is produced from a (theoretical) text.

To decode the image is to uncover its production, including its theoretical source.
As information, a technical image becomes endlessly reproducible.

Flusser here evokes Walter Benjamin.

What matters is not the physical object but the information.
The physical device is less important than the “theory” that determines its design.
SECTION ONE:
SUMMARY KEYWORDS

• Post-industrial society
• Apparatus
• Image of concepts
• Technical image
2. GRANULAR STRUCTURE

• One of Flusser’s key ideas:

An apparatus has a “granular” or quantum-like character.
• Technical images consist of a combination of “grains” or “quanta”.

• Examples:

Movie frames
• Sound samples
• The photographer normally takes a series of photographs.

• The photographer takes each photograph in doubt and later makes a decision.
• The photographic game is made up of acts of doubt and acts of decision.

• Each decision is also a “grain” or particle of photography.

• Flusser describes this as a quantum structure. We can call it a granular structure (“granular” refers to grains).
Another example of a granular structure: a digital image consists of pixels.
• Artist Christian Faur arranges crayons into pixels.
• Pinscreen

• http://www.youtube.com/watch?v=tWc7Q_FCG8c&feature=related

• http://www.youtube.com/watch?v=eiaZLurEtLY&feature=related

• http://www.youtube.com/watch?v=qXGdBgJO2Wl&feature=related
Every pixel on a computer screen is a combination of values that defines a “point” in color space.
A photograph is only one among possible combinations.
THE PROGRAM

The “program” of an apparatus is the system of possible combinations of elements.

Power belongs to those who design the program.

“To every photograph there corresponds a clear and distinct element in the camera program. Every photograph thereby corresponds to a specific combination of elements in programs.”
• **A photograph signifies the program** (ie., one of the possibilities built into the program).

• A photograph does not signify the world.
• But we think that photographs are transparent windows that displays the world.
• The more perfect the reproduction of reality, the more we treat the camera as a window.
• We forget that the camera signifies the program, not reality.
Pixim’s Digital Pixel System® Technology

- Pixels in bright areas automatically adjust to eliminate overexposure.
- Only all-digital solution.
- Every pixel automatically adjusts to produce an optimal exposure.
- It’s like having over 400,000 self-adjusting cameras inside – one for every pixel.
- *Every* Pixel Tells a Story.
A photograph is not a copy of the world but the expression of a concept.
SECTION TWO: summary

Quantum-like ("granular") structure

Program: system of combinations

A photograph signifies the program
3. The photographic universe
“To be in the photographic universe means to experience, to know and to evaluate the world as a function of photographs.”

Images from:
Dziga Vertov’s Man With a Movie Camera
In the photographic universe, anything can in theory be photographed....
• ...because we have come to think of the world in the same theoretical framework used to design the camera.
• Out theories of the world have the same structure as the theories used to build the camera.

• We think of everything as a combination of elements.
### Periodic Table of the Elements

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- **H**: hydrogen
- **Li**: alkali metals
- **Be**: alkali earth metals
- **Na**: transition metals
- **Mg**: rare earth metals
- **B**: nonmetals
- **C**: noble gases

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• The roots of this idea are in the philosophy of Rene Descartes.

• Descartes emphasized that rational thinking should analyze (break down) a problem into basic elements.

• To think is to describe the relations between those elements.
• Descartes theory is a model of thought (an idea of what it means to think).

In the photographic universe, this model of thought is applied everywhere.

Everything is **broken down into parts that can be recombined.**
“Cameras know everything and are able to do everything in a universe that was programmed in advance for this knowledge and this ability.”
4. PROGRAMMED FREEDOM
• An apparatus is a **black box**.

• To know how to use it, it is not necessary to know how it works internally.
  • One only needs to know “how to feed the camera” (the input) and what the result is going to be (its output).
• The photographer controls the camera by controlling its inputs and outputs.
• The camera controls the photographer because its interior is not transparent.
The photographer must make a choice based on the system of possibilities of the apparatus:

- Close-up
- Medium-shot
- Long shot
- Low or high angle
- Telephoto, wide angle
- Exposure time
- Aperture
- Etc.
• The **program** determines the possibilities of the camera. A program is like software.

• A program is a **system of possibilities** for the photographer to choose.

• Every photographic act is a combination of these choices.
John Hillard, Camera
Recording its Own Condition
(7 Apertures, 10 Speeds, 2 Mirrors) 1971
“In the act of photography the camera does the will of the photographer, but the photographer has to will what the camera can do.”

“..the freedom of the photographer remains a programmed freedom.”
The freedom of the user of any software package is also a programmed freedom.
The program of the camera requires people to go on taking photographs.
• Every photograph gives feedback or “test results” and test cases to the industry.

• This can be used to improve the camera.
  – Improvement is part of the program of the apparatus.
  – “Apparatuses improve by means of social feedback”
• Flusser describes this as a cybernetic structure:

The function of the camera is to program society to function as a feedback mechanism for the camera.
• “Cameras demand that their owners… keep on taking snaps…”

• The camera “makes use of the photographer”.

• The camera turns everyone into a robot that mechanically produces snapshots: apparatuses “robotize” society.
People have been programmed by advertising to demand “the latest model”....

...thus fostering the process of constant improvement.
• People expect the camera to become easier and easier to use: they “wish to make [the camera’s] functioning simpler and simpler by means of more and more perfect automation.”

• They want to simplify the instructions for use.
EASY to USE

3 EASY STEPS

1. Initial Setup
2. Pick or Create Your Own Design
3. Add your Content

LEARN MORE

SIGN UP TODAY!
Tap icon to start recording
The user feels in control of the apparatus.
• The users then feel no need to “decode” or understand the camera, since they know well how the camera works.

– They think that they know what the camera is.
• The camera is *taken for granted as a black box.*
  – The user does not want to examine its interior.
• People “become an extension of the button of the camera” so that their actions turn into “automatic camera functions”.
• The program of the camera demands that people continue to produce new images.
• They take mainly redundant (predictable) photographs.
• We are further programmed through distribution apparatus that circulate the photographs throughout the society.

• They channel photographs and other technical images/sounds to “appropriate” destinations.
Science photographs are distributed via scientific publications.
• Art photographs are distributed to relevant publications, galleries, museums, etc.
Distribution channels program us to understand and make photographs in certain ways:
• When making the photograph, the photographer often already has in mind a specific (type of) distribution.
These distribution channels are apparatuses that program us to make more and more photographs, to take them for granted, and to accept the role of users without challenging the black box.
We live surrounded by apparatuses within apparatuses: financial, industrial, political, educational apparatus.
These apparatuses are connected together via input-output mechanisms: the output of one becomes an input of the other.

“The whole complex of apparatuses is therefore a super-black-box made up of black-boxes.”
SECTION 4: SUMMARY KEYWORDS

• Black box
• Programmed freedom
• Social feedback mechanism
5. THE PHOTOGRAPHIC GAME
• An apparatus is like a game of chance.
• The dice contain a fixed set of discrete possibilities.
• Every photograph is a chance combination of elements from the photographic program.
The game combines randomness and necessity.

1. **Randomness**: every combination that actually occurs is an unpredictable chance event.

2. **Necessity**: Given a sufficiently long period of time, every possible combination will necessarily occur.
• We are programmed to take photographs, but which photograph we happen to take is a matter of chance.
• Eventually, all combinations must occur.
• Some photographers attempt to beat the program of the camera and take original photographs.

• They are playing a game against the program of the camera.

• The aim of the photographer’s game is to take a photograph that has not yet been made.
• These photographers are like the chess player who want to discover new strategies.

• They want to explore all the possible ways of playing with the camera.
“Thus photographers want to discover possibilities not yet discovered within it.”

They are looking for the unpredictable, for new moves.
“Photographers endeavor to exhaust the photographic program by realizing all their possibilities.”

--all possible combinations in the program of photography.
This kind photographer aims to discover possibilities not built into the program.
This photographer aims to become a “metaprogrammer” of photography.

• the person who designs a programming language instead of using it.
• Eventually, the photographer can make unpredictable photographs.

• They were not foreseen in the program of photography.
CONCLUSION: The aims of a philosophy of photography

1. To reflect on and theorize the practice of photography as a conflict:

   • How the photographer uses the camera
   • How the program of the camera uses the photographer.
2. To show that “there is no place for human freedom within the area of automated, programmed, and programming apparatuses....”

To criticize the programmed freedom of the post-industrial society.
3. To show that “it is nevertheless possible to open up a space for freedom.”

The photographer aims to become a metaprogrammer of the camera.
• Philosophy can help to clarify the goals of experimental photography: to achieve freedom in a programmed society.
No criticism of photography (or the computer) has ever tackled this question:

“...we have been unable to achieve criticism of this type.”
• Analysis of Jeff Wall’s photographs using Flusser’s ideas:

• http://ileniabombardi.com/?p=229