Design / Visual Language Basics

Function of Design

- Create **coherence** and **clarity**

- Visual Identity: Gives an overall identity, a **branding** through formal design choices (form, color, font, etc.)

- **Rule-based** by which to **structure** information

- Good Design is **invisible**! Does not take over content that it represents

Visualization is Culture Specific

- **Scientific visualization** deals with data that has a natural geometric structure (e.g., MRI data, wind flows)

- **Information visualization** handles abstract data structures such as trees or graph

- **Graphic Design**: Emphasis on the aesthetics and language of visual form

- **Visual (Culture) Analytics**: Science of analytical reasoning through visual interactive interfaces

Design Convention Issues

- Design is becoming universal!

- There are cultural differences:

  - Text direction / movement

  - Color meaning and relationships

  - Conventionsof chaos and order

- Course Focus: **Swiss Graphic Design**

- Coherence thru invisible grid

Swiss Graphic Design

- Begun in Russia and Germany in 1920s (*Constructivism, Bauhaus, Suprematism*).

- Embraced by Swiss Designers in 1950s after WWII

- In US, Visual Identity of IBM and other corporations in 1960s, then Apple 1980s

- **Goal**: To represent information **without associated meanings**

- **Major contributions of Swiss Design:**

  - Grid System (Josef Müller-Brockmann)
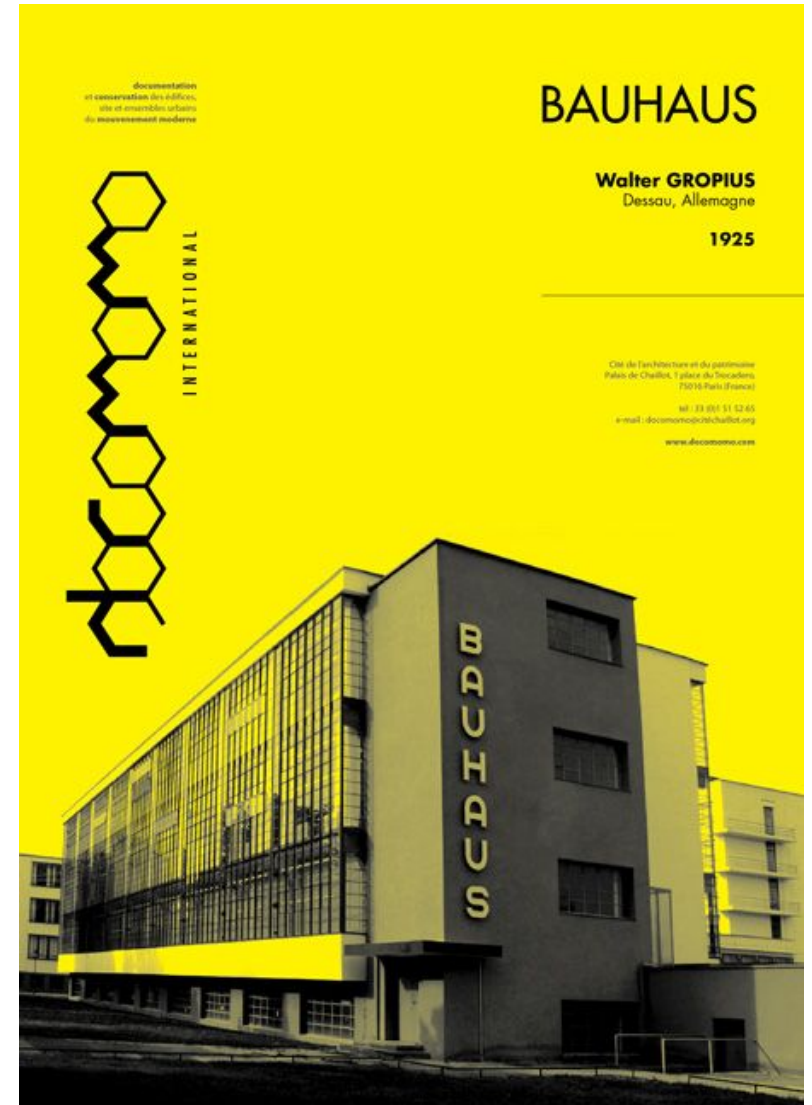 - Typography (Frutiger, Tschichold)
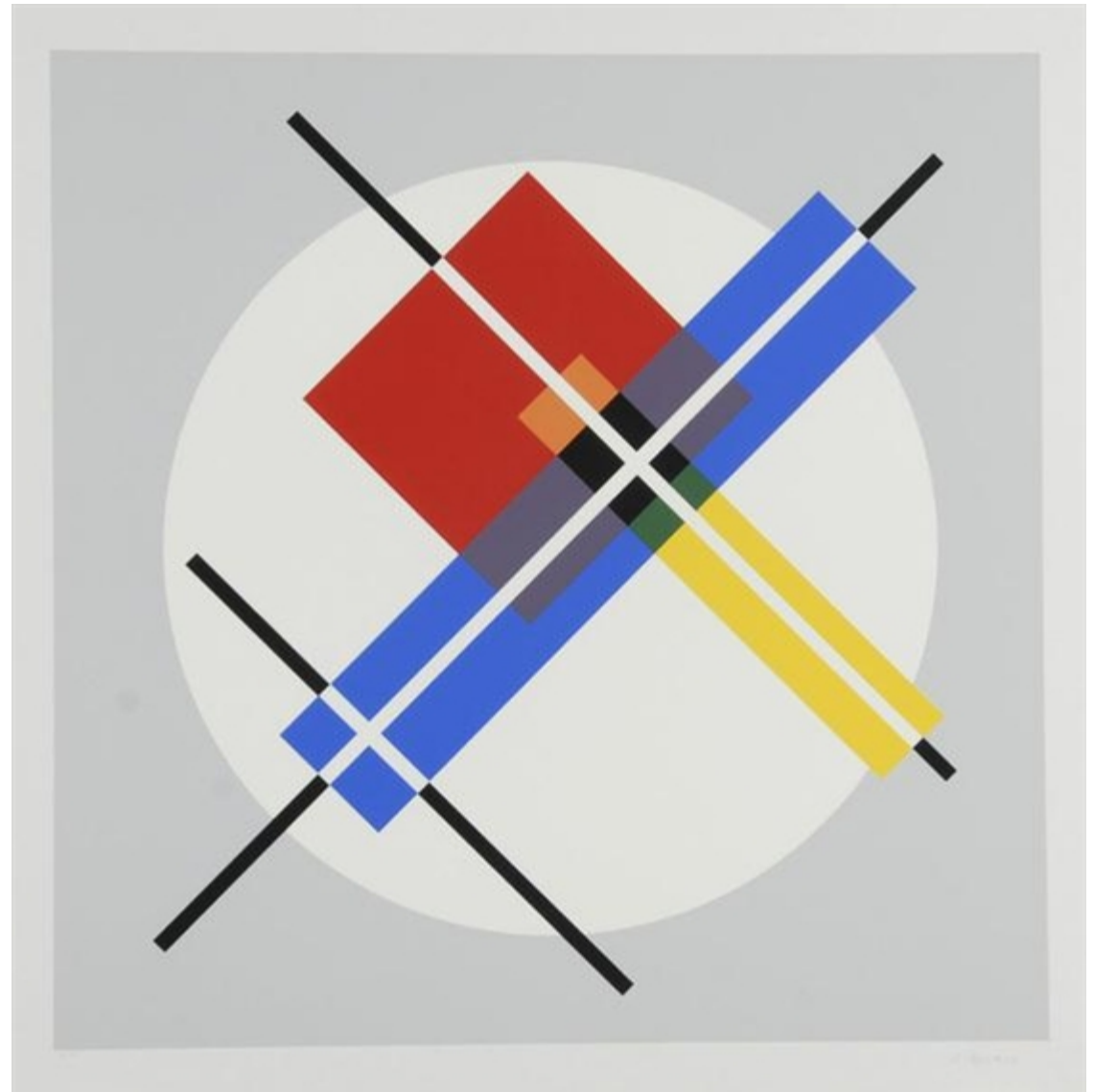
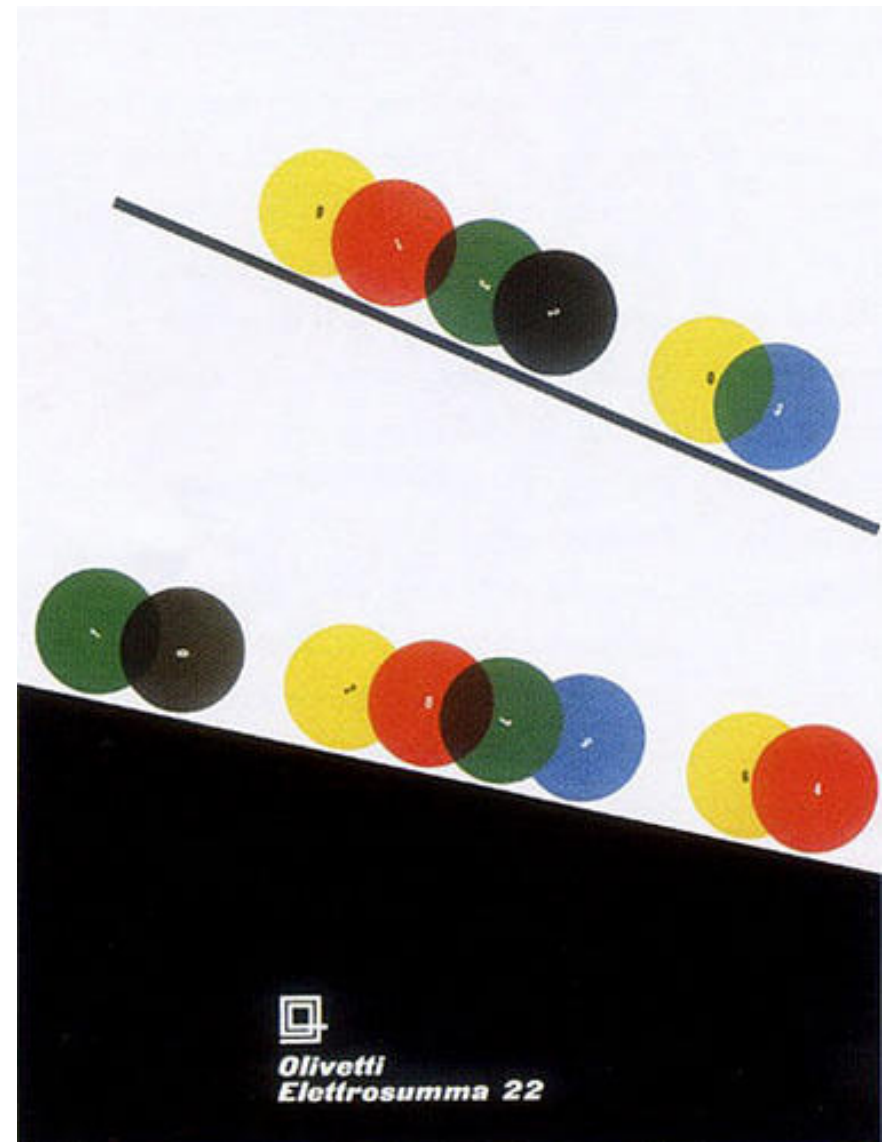# Constructivism (USSR, 1920s)
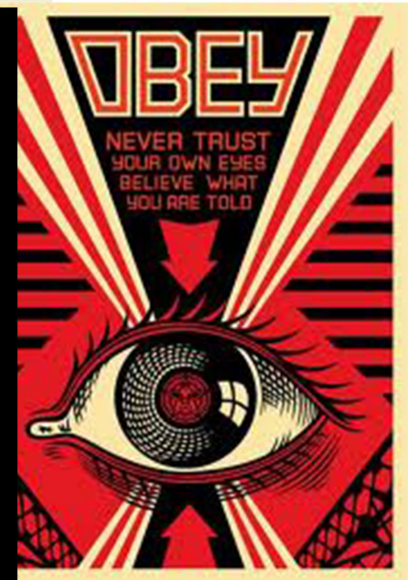
Suprematism (USSR, 1920s)
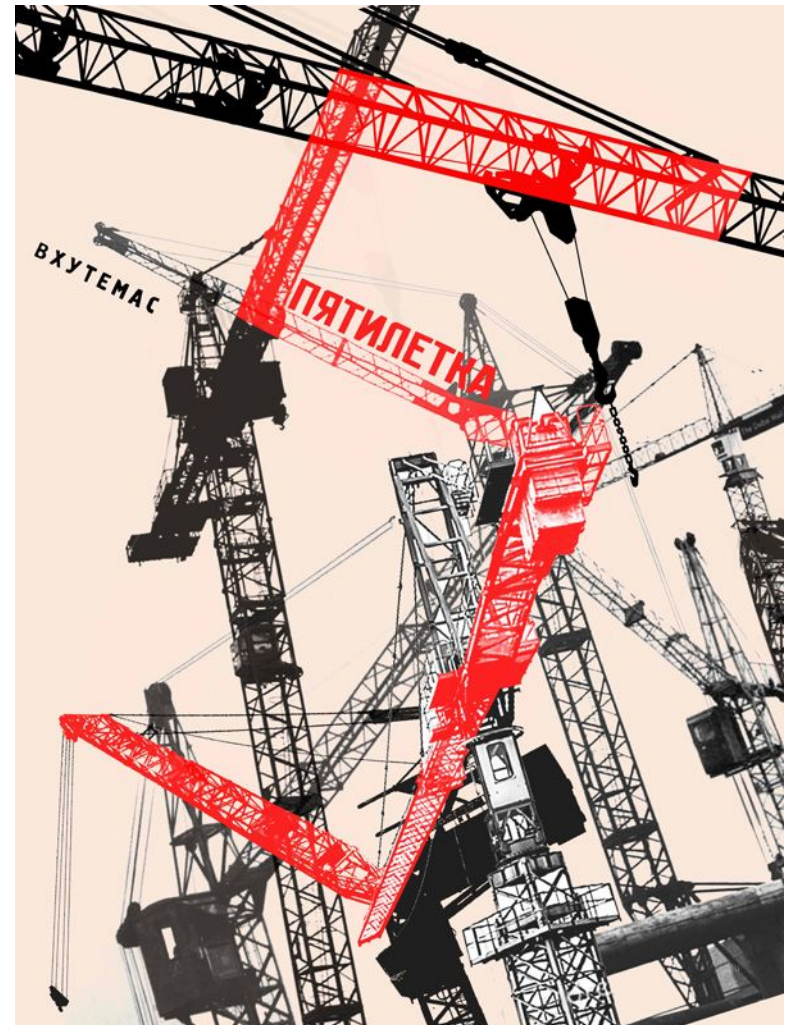
Bauhaus (Germany, 1919-1925)

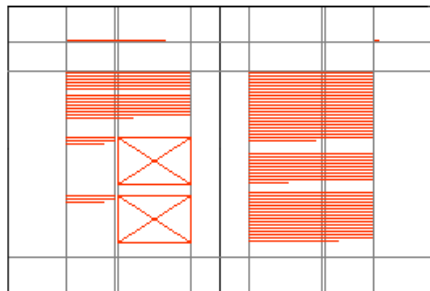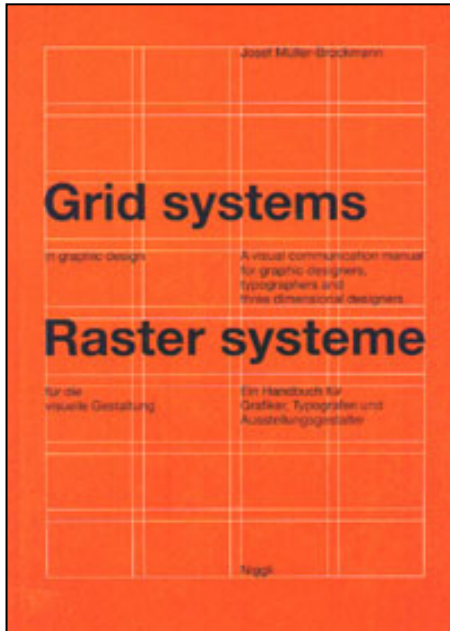# Netherlands (de stijl, 1920s))

Swiss Graphic Design (1950s-1970s)

Swiss Graphic Design Impact (Apple)

Structure: the Grid System (Brockmann)

- **Modular Grids**: Modules determine the dimensions and placement of graphic and typographic elements

- All elements are **consistently** placed according to the **pre-determined structure** once it has been defined

- The grid functions as an **organizational** device, but stays **invisible**

- Structural order also requires **imagination**

- Design process: begin with **intuition** and **visual judgement,** follow with rational structure

The Grid System (Brockmann)

The ultimate resource in grid systems.

" *The grid system is an aid, not a guarantee. It permits a number of possible uses and each designer can look for a solution appropriate to his personal style. But one must learn how to use the grid; it is an art that requires practice.* "
Josef Müller-Brockmann

Show Grid

Join The Forum

Search

Articles

The Golden Proportion
The golden section– a precise way of dividing a line, music or anything else-is showed up early in mathematics.
06.Jan.2010

The Golden Ratio in Web Design
You would be surprised to find out that most aesthetically pleasing designs, works of art, objects and even people have math in common. Specifically the Golden Ratio...
06.Jan.2010

Tools

Fluid 960 Grid System
A jQuery based fluid grid system template based on Nathan Smith's 960 Grid System. Allows multiple layouts including 12 or 16 fluid columns and 12 or 16 fixed columns.
06.Jan.2010

Masonry
Masonry is a layout plugin for jQuery that arranges elements vertically then horizontally according to a grid.
06.Jan.2010

Books

Universal Principles of Design
Universal Principles of Design is the first comprehensive, cross-disciplinary encyclopedia of design.
04.Nov.2009

Designing for the Web
A Practical Guide to Designing for the Web has written explanations of the core principles of graphic design in relation to the web.
08.Oct.2009

Templates

Photoshop 4 Column Grid
A free 4 Column Photoshop grid template for a 1024×768 screen resolution by Ray Gulick.
08.Jun.2009

InDesign 568x792 Grid System (12)
By Dario Galvagno. Adobe InDesign file with a grid system for a 568pts x 792pts page that is divided into 12 columns and rows using the Golden Ratio. Includes a 12pt baseline grid.
16.Apr.2009

Blog

Buy Slammer = Help Haiti
The grid-generating app Slammer is part of the Indie+Relief initiative. Buy it and all proceeds from today (01/20) will be donated to Haiti.
20.Jan.2010

Eternal Network
Lovely minimal grid based site design that's reminiscent of old computer paper.
06.Jan.2010

Inspiration

Ace Jet 170
AisleOne
Athletics
BBDK
Blanka
Build
Corporate Risk Watch
Counter Print
David Airey
Design Assembly
Dirty Mouse
Experimental Jetset
Form Fifty Five
Grafik Magazine
Grain Edit
Graphic Hug
I Love Typography
Lamosca
Mark Boulton
Minimal Sites
Monocle
Neubau
NewWork
OK-RM
Original Linkage
Robin Uleman

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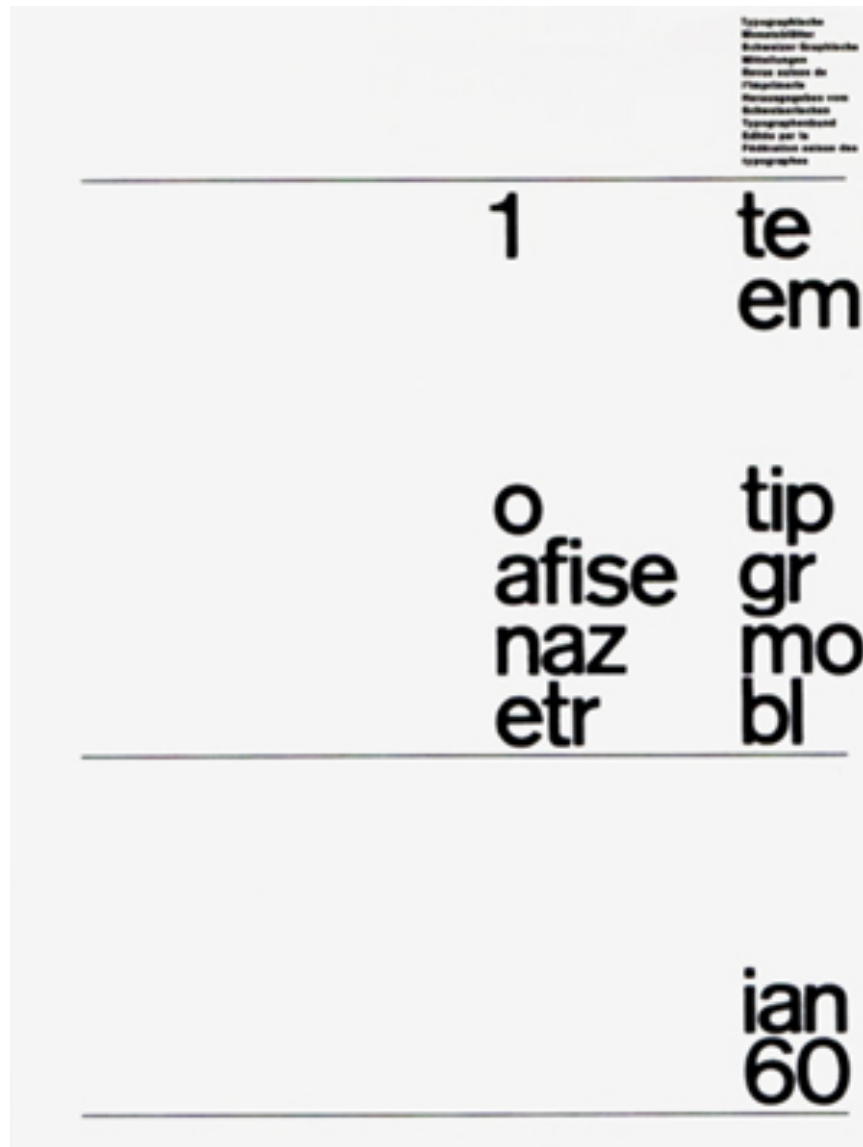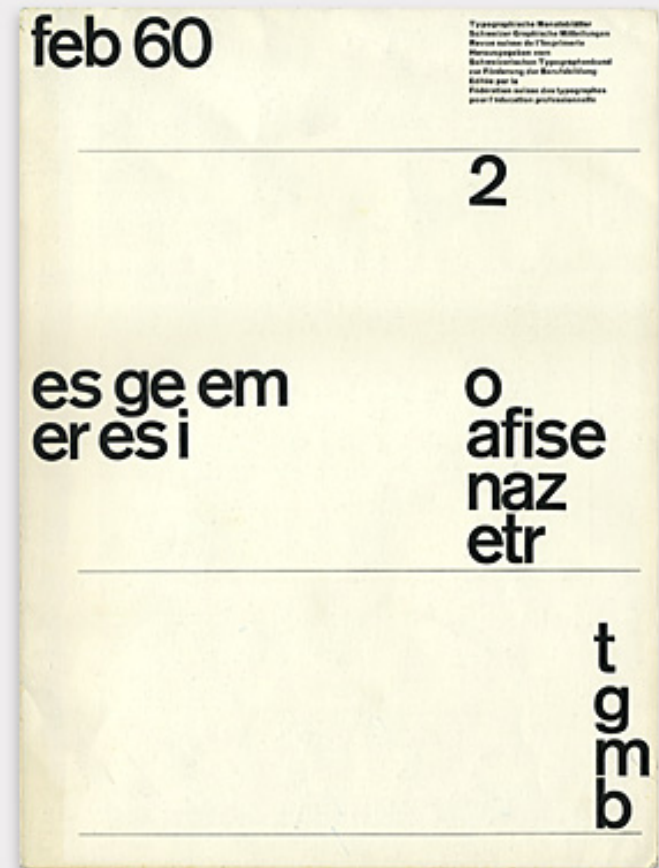
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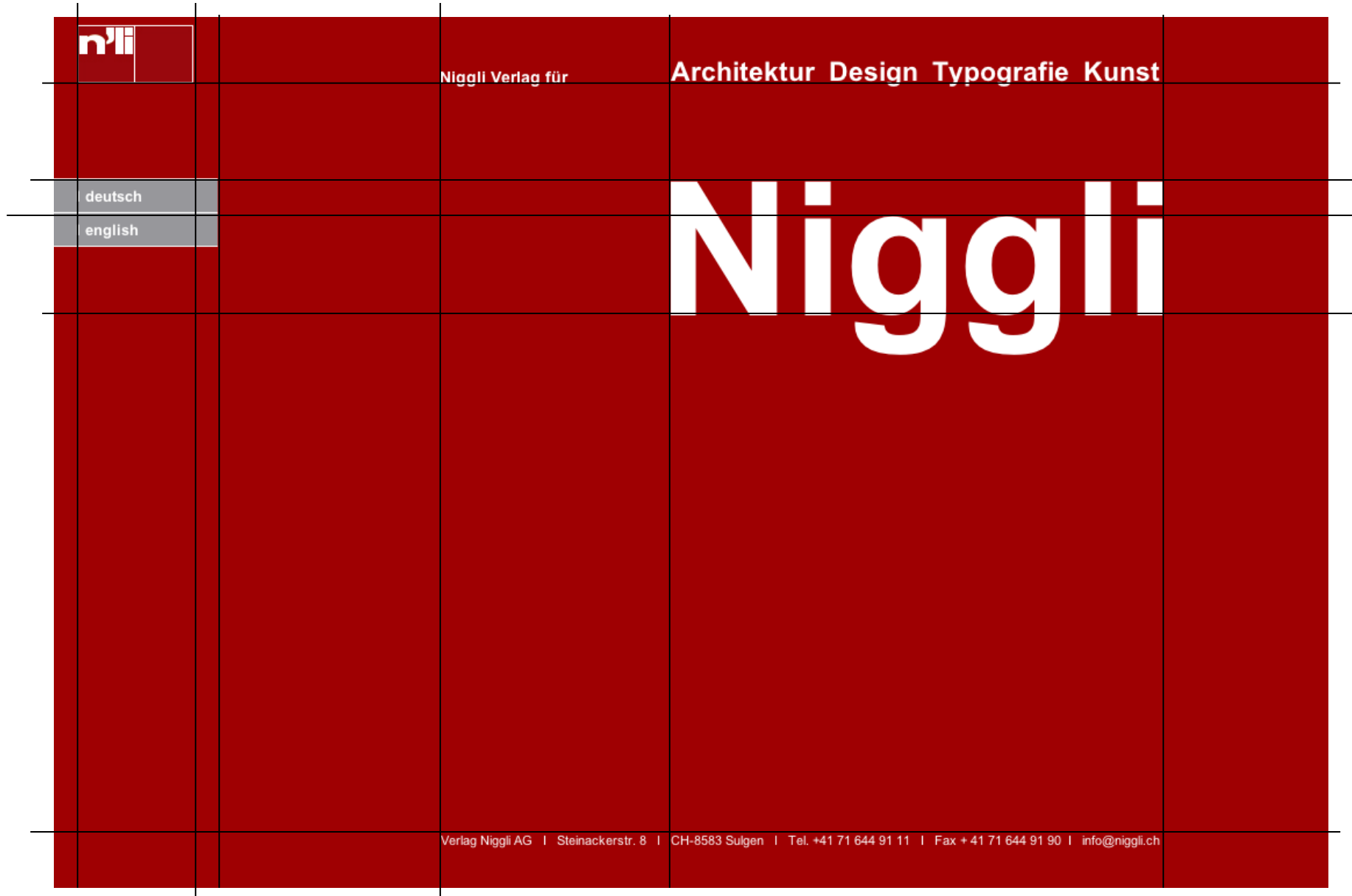
Swiss Graphic Design

Swiss Graphic Design

Visual Basic Literacy: Basic Units(Dondis)

- **Dot**: Minimal unit, pointer, marker of space

- **Line:** Joins dots, articulator of space

- **Shape**: Line describes and encloses space

- **Direction**: Thrust of movement

- **Tone**: The intensity of lightness or darkness

- **Color**: Associative and symbolic meanings

- **Texture**: Quality of touching, looks/feels like

- **Scale**: Relative proportion & measurement

- **Space**: Organization of

- **Motion**: Visual elements guiding the viewer

Basic Rules of Design

- How to organize **screen space**

- How to line things up: **Hidden grid system**

- Basic Elements: **Point, Line, Form, color**

- How **color** functions

- **Text and labeling**: What fonts, how much?

Conceptual Design

First phase of a project where quick sketches are used for **idea definition:**

- Provides a description of the proposed system

- What are the elements, how do they interface

- What it will look like

- Defines both the functionality and aesthetics of the project

Ryoji Ikeda

Japanese sound and visual artist

- Uses scale, light, shade, volume, shadow, electronic sounds, rhythm

- Datamatics (2013)

- http://www.armoryonpark.org/photo_gallery/slideshow/ryoji_ikeda

CHROMOSOME:01 CONTIG:NT_004610.18 ORIENT:+ GENE-NAME:FAM76A GENEID:199870 CHR-START:27925076 CHR-STOP:27960702 FEATURE-TYPE:GENE GROUP-LABEL:REFERENCE TRANSCRIPT:- EVIDENC

CHROMOSOME:02 CONTIG:NT_022184.14 ORIENT:- GENE-NAME:NATB GENEID:9027 CHR-START:73721464 CHR-STOP:73723032 FEATURE-TYPE:GENE GROUP-LABEL:REFERENCE TRANSCRIPT:- EVIDENCE-CO

CHROMOSOME:03 CONTIG:NT_022517.17 ORIENT:- GENE-NAME:SFMBT1 GENEID:51460 CHR-START:52913668 CHR-STOP:53055112 FEATURE-TYPE:GENE GROUP-LABEL:REFERENCE TRANSCRIPT:- EVIDENC

CHROMOSOME:04 CONTIG:NT_016354.18 ORIENT:- GENE-NAME:CXCL10 GENEID:3627 CHR-START:77161296 CHR-STOP:77163672 FEATURE-TYPE:GENE GROUP-LABEL:REFERENCE TRANSCRIPT:- EVIDENCE-

CHROMOSOME:05 CONTIG:NT_006713.14 ORIENT:+ GENE-NAME:LOC645153 GENEID:645153 CHR-START:84134888 CHR-STOP:84165512 FEATURE-TYPE:GENE GROUP-LABEL:REFERENCE TRANSCRIPT:- EVID

CHROMOSOME:06 CONTIG:NT_007592.14 ORIENT:+ GENE-NAME:C4B GENEID:721 CHR-START:32057812 CHR-STOP:32078436 FEATURE-TYPE:GENE GROUP-LABEL:REFERENCE TRANSCRIPT:- EVIDENCE-CODE

CHROMOSOME:07 CONTIG:NT_007758.11 ORIENT:- GENE-NAME:LOC402273 GENEID:402273 CHR-START:63247432 CHR-STOP:63278632 FEATURE-TYPE:GENE GROUP-LABEL:REFERENCE TRANSCRIPT:- EVIC

CHROMOSOME:08 CONTIG:NT_008183.18 ORIENT:+ GENE-NAME:CHD7 GENEID:55636 CHR-START:61753892 CHR-STOP:61942020 FEATURE-TYPE:GENE GROUP-LABEL:REFERENCE TRANSCRIPT:- EVIDENCE-C

CHROMOSOME:09 CONTIG:NT_023935.17 ORIENT:- GENE-NAME:APBA1 GENEID:320 CHR-START:71235024 CHR-STOP:71477040 FEATURE-TYPE:GENE GROUP-LABEL:REFERENCE TRANSCRIPT:- EVIDENCE-CO

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CHROMOSOME:11 CONTIG:NT_009237.17 ORIENT:+ GENE-NAME:CD44 GENEID:960 CHR-START:35116992 CHR-STOP:35210524 FEATURE-TYPE:GENE GROUP-LABEL:REFERENCE TRANSCRIPT:- EVIDENCE-COD

CHROMOSOME:12 CONTIG:NT_029419.11 ORIENT:- GENE-NAME:RACGAP1 GENEID:29127 CHR-START:48669212 CHR-STOP:48705488 FEATURE-TYPE:GENE GROUP-LABEL:REFERENCE TRANSCRIPT:- EVIDENC

CHROMOSOME:13 CONTIG:NT_009952.14 ORIENT:- GENE-NAME:LOC644627 GENEID:644627 CHR-START:110213016 CHR-STOP:110214072 FEATURE-TYPE:GENE GROUP-LABEL:REFERENCE TRANSCRIPT:- EV

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CHROMOSOME:16 CONTIG:NT_010393.15 ORIENT:- GENE-NAME:LOC647088 GENEID:647088 CHR-START:30823170 CHR-STOP:30840712 FEATURE-TYPE:GENE GROUP-LABEL:REFERENCE TRANSCRIPT:- EVIC

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CHROMOSOME:21 CONTIG:NT_011512.10 ORIENT:+ GENE-NAME:KRTAP13-4 GENEID:284827 CHR-START:30724464 CHR-STOP:30724948 FEATURE-TYPE:GENE GROUP-LABEL:REFERENCE TRANSCRIPT:- EVID

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CHROMOSOME: X CONTIG:NT_011630.14 ORIENT:+ GENE-NAME:LOC644856 GENEID:644856 CHR-START:55216376 CHR-STOP:55226508 FEATURE-TYPE:GENE GROUP-LABEL:REFERENCE TRANSCRIPT:- EVIC

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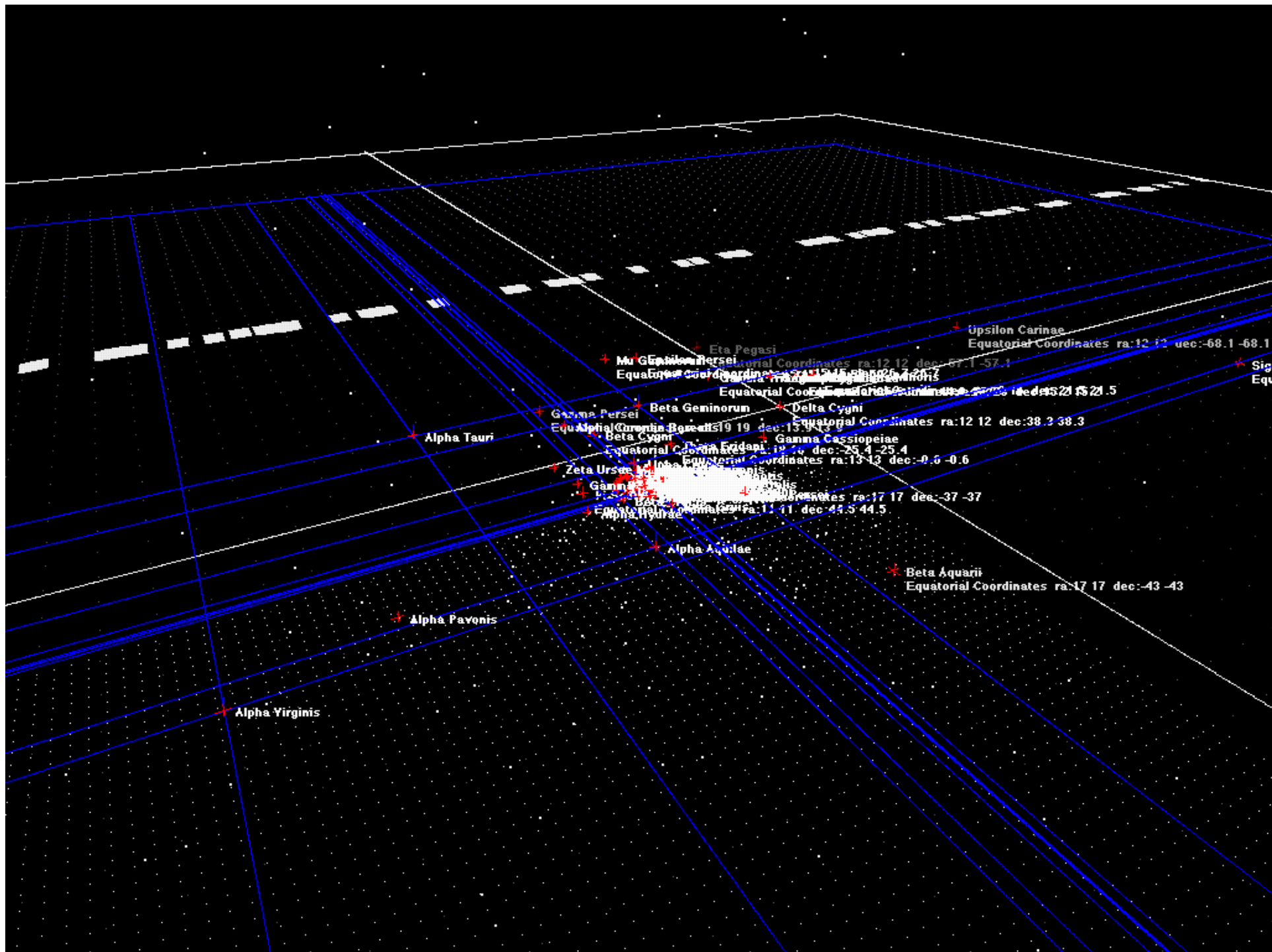
Visual Organization / Space (Macro-micro, willi kunz)
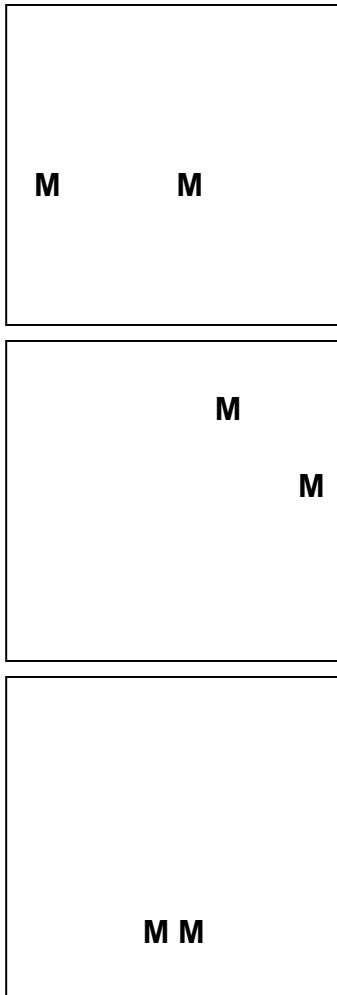
- **Size** and **proportion** of space are determined at the beginning

- Space is visually **subdivided** by the **tension** that develops between an **element** and the **boundaries** of the space

- **Space**: Depending on their visual placement within a given space, the **same** elements will assume **different** visual aspects of **weight** and **movement**

Typography

**Swiss Graphic Design Fonts**:

- Sans Serif: Arial, Futura, Helvetica, Univers, etc.

- Serif: Times New Roman

Usage Recommendations:

- <u>Left-Aligned</u>

- *<u>Italics</u>* only for titles or highlighting

Text and Visual Direction is Culture Specific

- **Western (descendant from Greek):** Upper left to right, down

- **Cyrillic**: Upper left to right, down

- **Semitic, Arabic Languages**: Upper right to left

- **Japanese, Korean, Chinese**: Left-to-right, vertical top-to-bottom, and sometimes left-to-right

The direction of writing also influences how we will scan information on a page

Typography

Swiss Graphic Design Fonts:

- Sans Serif: Arial, Futura, Helvetica, Univers, etc.

- Serif: Times New Roman

Usage Recommendations:

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- ***Italics*** only for titles or highlighting

THE
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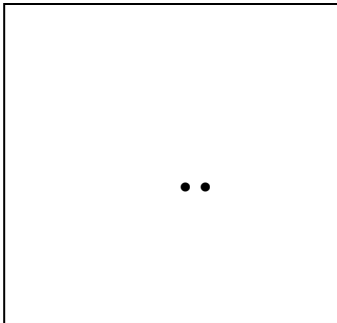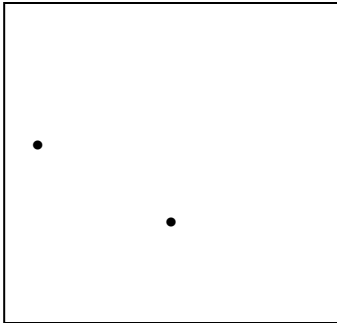TYPOGRAPHIC
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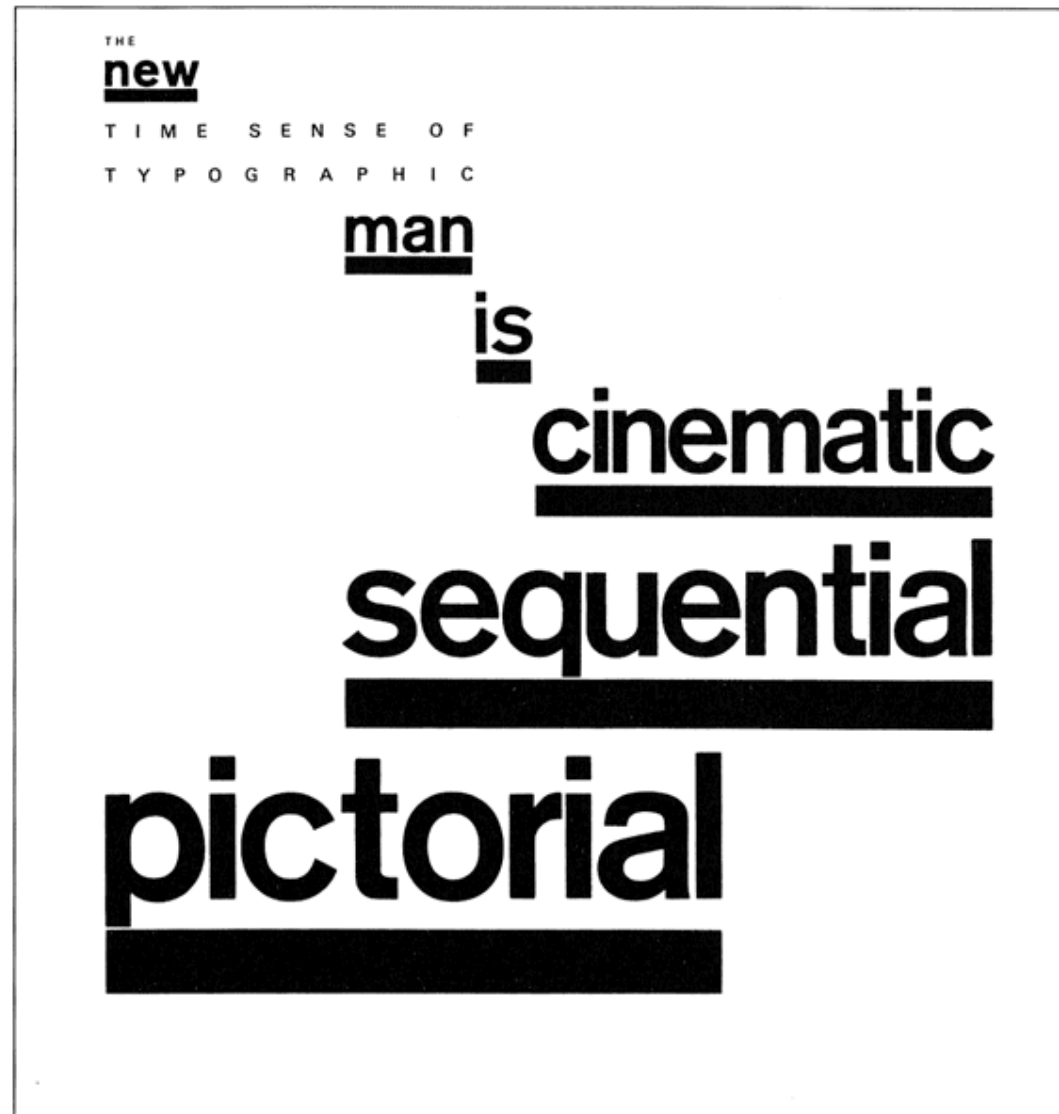
Motion, Movement Through Spatial Organization
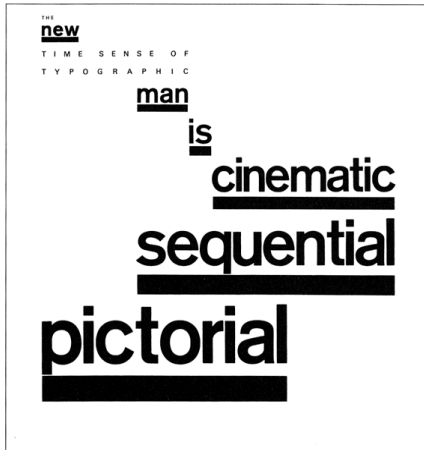
- A **space** becomes visually active when it is subdivided

- Balance is achieved through interplay of **scale**, **sequence**, and **spatial position**

- Any object placed next to each other in an image defines a **relationship** through **spatial proximity**

Visual Groupings in Space
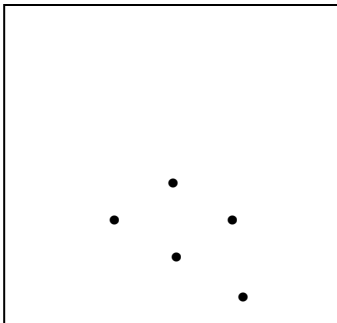
- **Attraction & Grouping**: 2 dots fight for attention in their interaction

- **Distanced:** Create individual statements as they repel each other

- **Close together:** There is an attraction force

- **Perception**: dictates to make whole out of units
 - Connect the dots!! (we do it with the stars)

Opposites repel, similars attract

Weight, Im/Balance, Dis/Order, Un/Stable
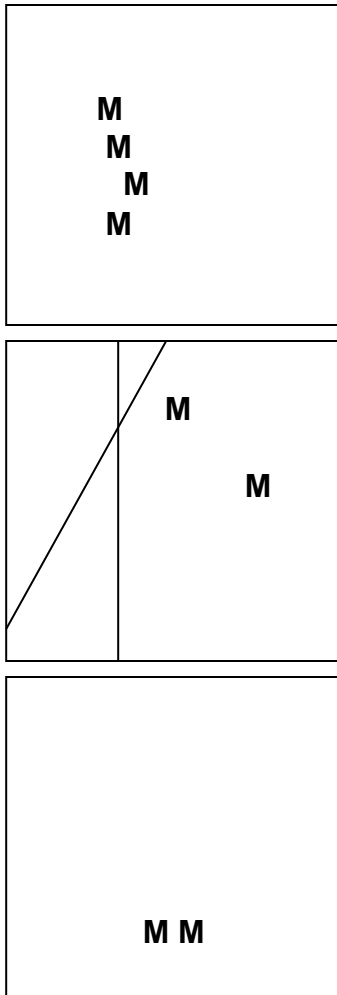
- **Balance:** Physiological, psychological
  - **H-V construct:** man to his environment
- **Stress**: Unstable causes stress
  - Stabilization: relative stress/balance
- **Lower-left**: most stable
- **Harmony**: (centered), no visual surprise
  - Search for balance with off-center mark
- **Ambiguity**: may obscure intent & meaning
  - Slightly off-center mark confounds
- Visual elements in stress location: more weight

Scale: Relative proportion & measurement

© 2007 Luke Saunders
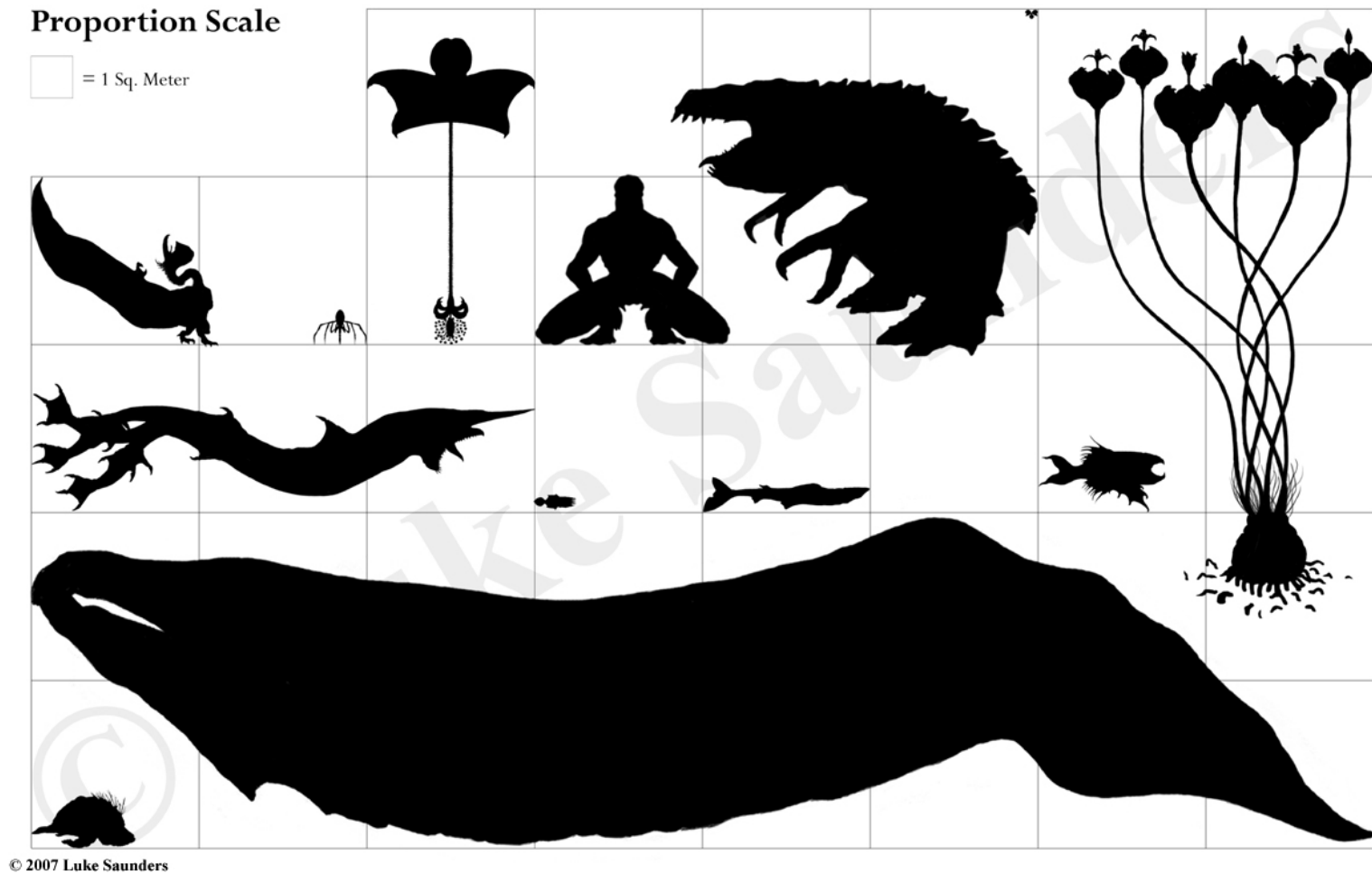
Color Relationships

- Black & White or color?

- If **<u>black and white</u>** – what about grey tones?
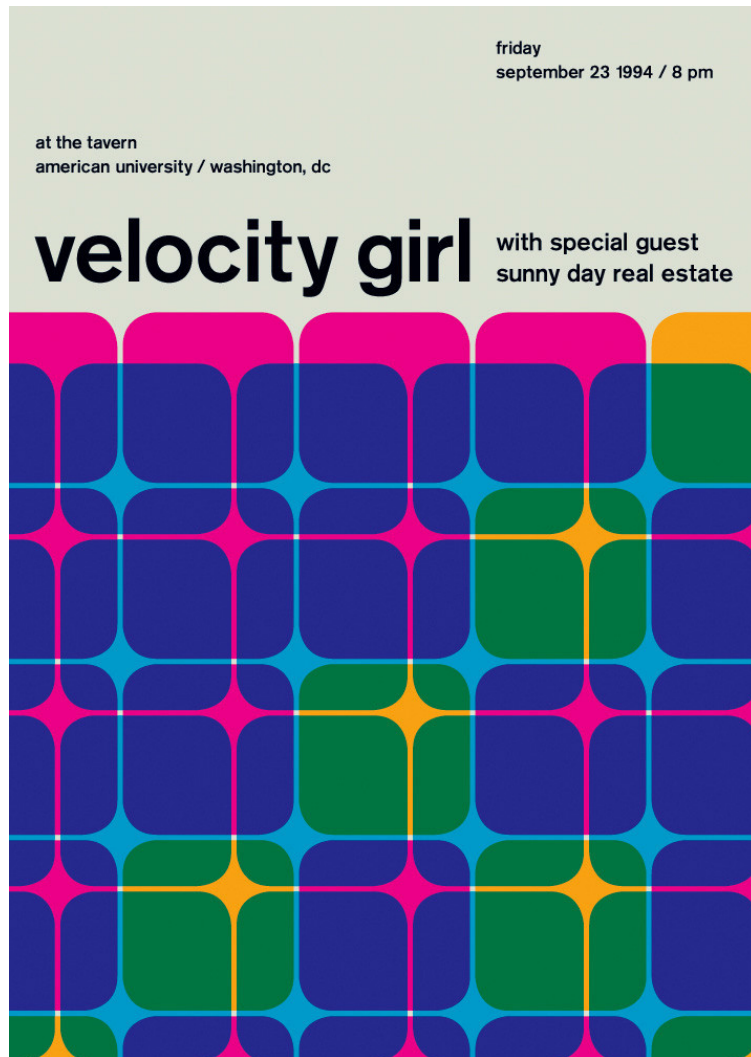
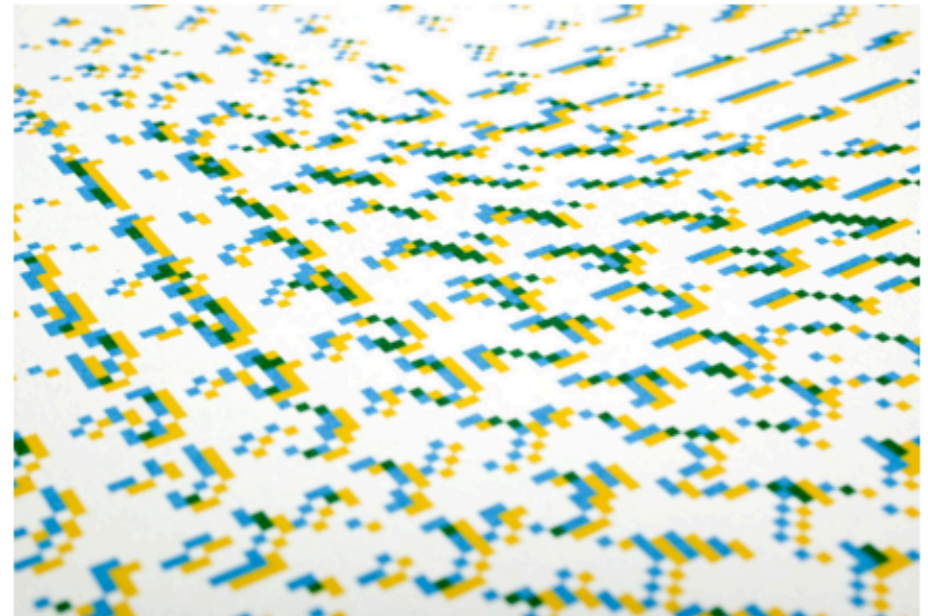- If **<u>color</u>**, how many? (Limit to 3 to 6?)
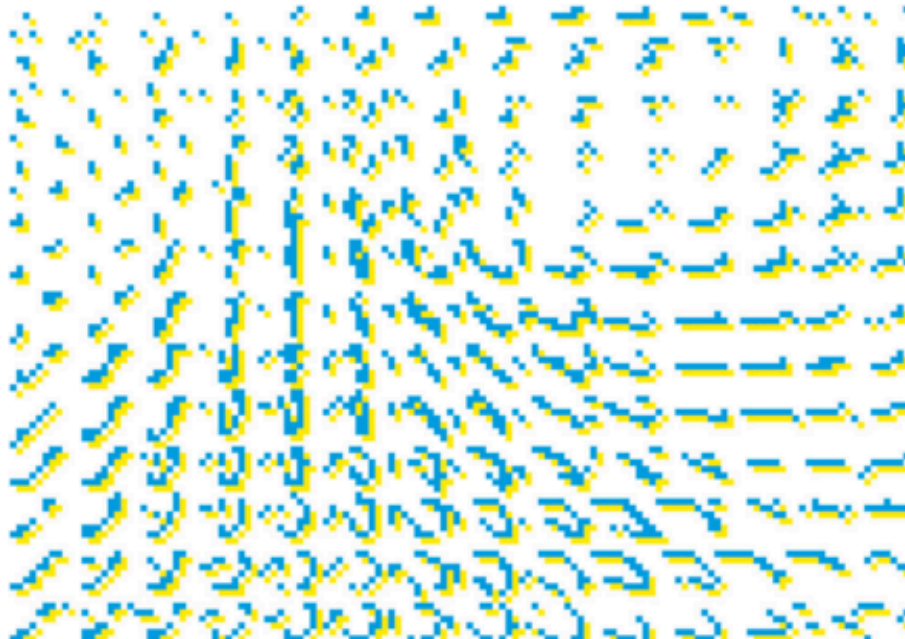
Color Tools & References

http://tristen.ca/hcl-picker/#/hlc/6/1/21313E/EFEE69

Problems of equidistant HSV

Swissted Graphic Posters

Color Relationships

Bruce Mau Design: SPL

Which font?

DUST + WATER PUT SOMEWHERE
BETWEEN THE SKY & THE EARTH

ONE QUART EXTERIOR GREEN INDUSTRIAL ENAMEL
THROWN ON A BRICK WALL
EEN LITER GROENE INDUSTRIËLE BUITENLAK
TEGEN EEN BAKSTENEN MUUR GEGOOID

Image Complexity – Balance & Sub Division

- Too ordered is boring

- Too chaotic is confusing

Find a space between those two extremes

Strategy: Create an ordered system and then slightly disturb it

Image Complexity – Balance & Sub Division

Resources: Some Design Firms & Others

- Metadesign
- Bruce Mau (SPL)
- LTL (Architectural design)
- Columbia School of Architecture
- Sensable City MIT
- LTL Architects
- Herzog de Meuron
- OMA (Office of Metropolitan Architecture)