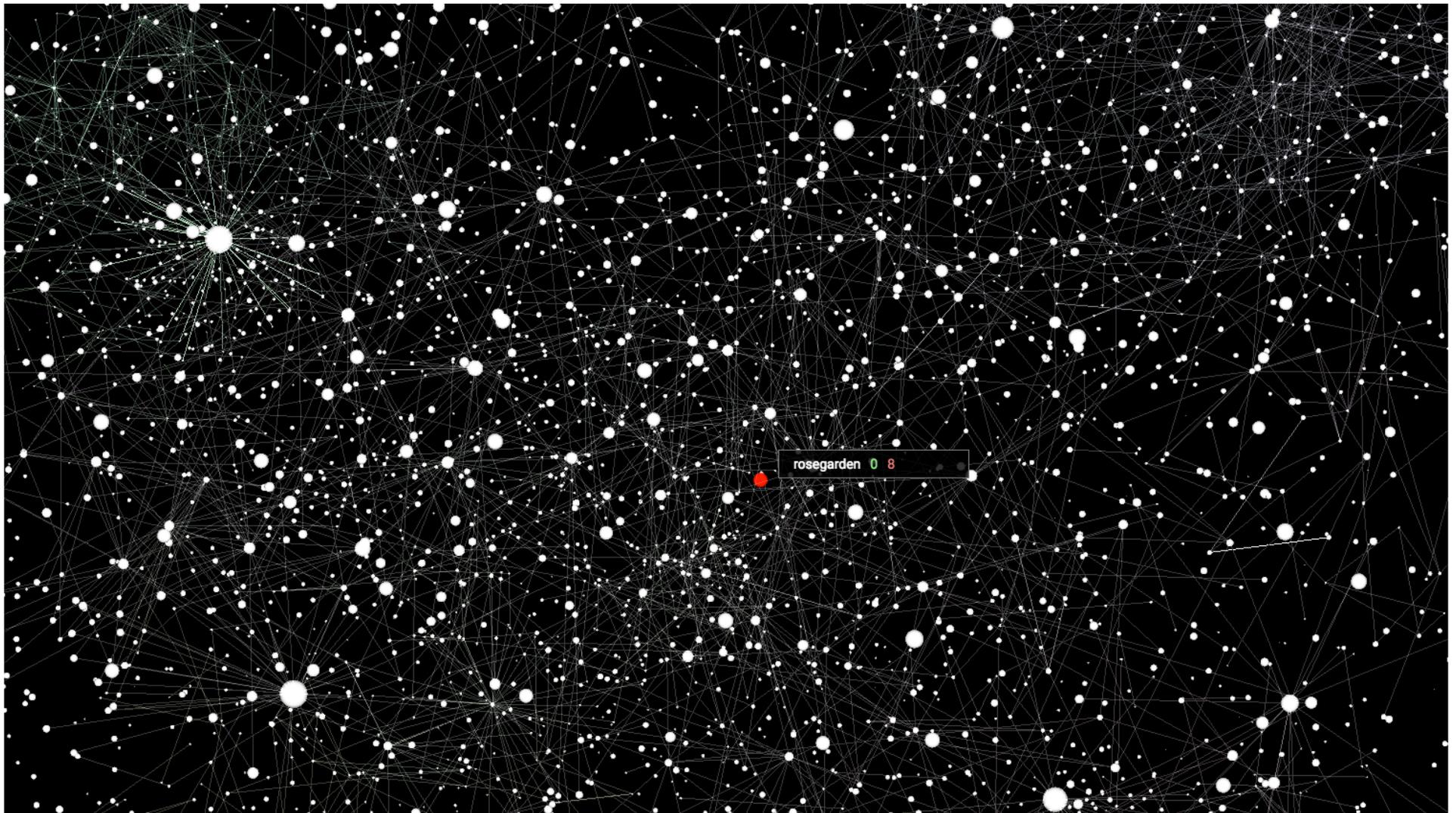


Design / Visual Language Basics



Function of Design

- Coherence, Clarity, Communication
- **Visual Identity:** Gives an overall identity, a **branding** through formal design choices (form, color, font, etc.)
- **Rule-based process to structure** information
- Good Design aims to be **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 interfaces

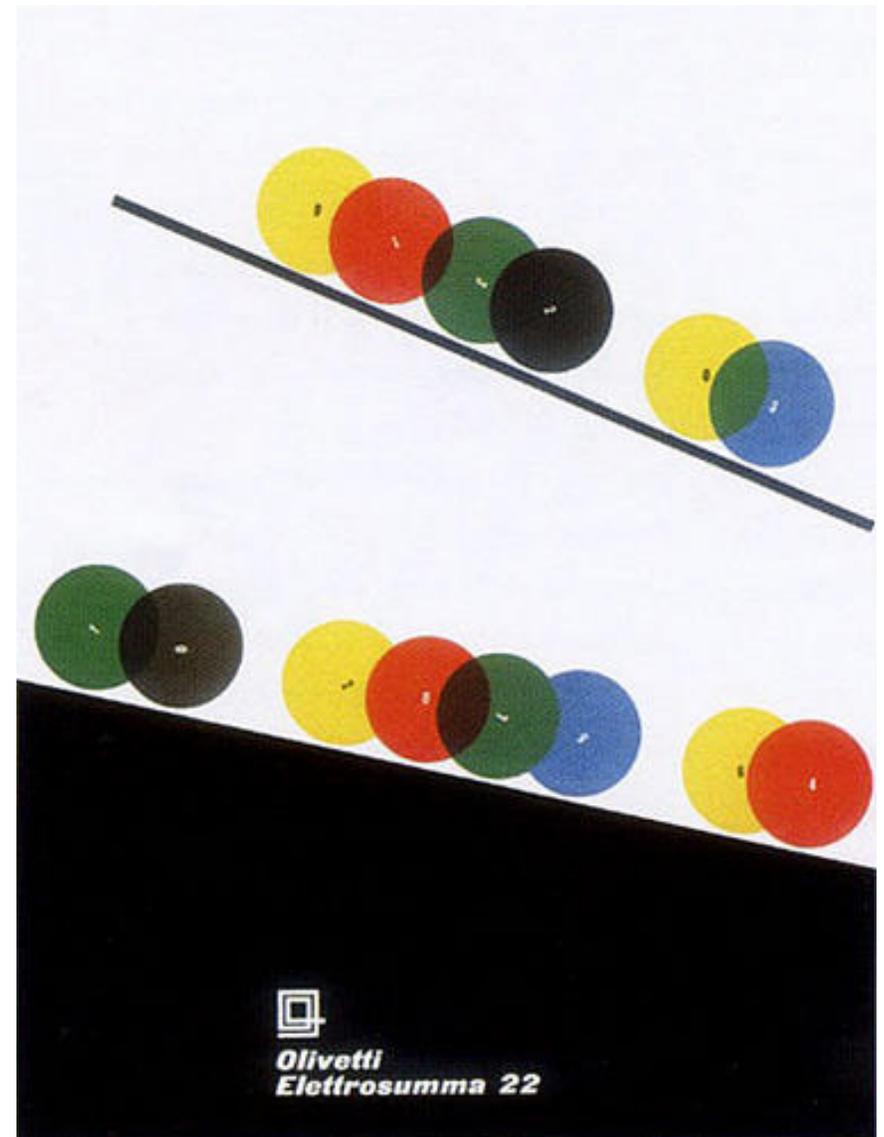
Design Fundamentals

- How to organize space
- How to organize elements within a space
- What fonts to use
- What color relationships to use

Swiss Graphic Design

- Developed for Swiss Industries in 1950s after WWII
- USA corporate visual identity in 1960's (IBM, etc.), then computer (Microsoft, Apple)
- **Qualities:** Simplicity, legibility, objectivity
- **Goal:** To represent information in its pure form
- **Major contributions of Swiss Design:**
 - **Grid System** (Josef Müller-Brockmann)
 - **Typography** (Frutiger, Tschichold)
 - **Experimentation** in organizing visual elements

Swiss Graphic Design (1950s-1970s)



MAT 259 Visualizing Information

Rudolf Bröcher, logotype, 1924



Josef Müller-Brockmann, poster, 1953



Karl Gerstner, cover, 1953



Josef Müller-Brockmann, poster, 1953



Marcel Wäss, Kurt Blum, cover, 1954



Josef Müller-Brockmann, poster, 1955



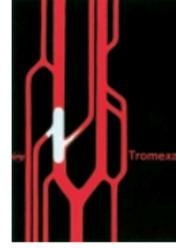
Josef Müller-Brockmann, poster, 1955



Josef Müller-Brockmann, poster, 1955



Nelly Rudin, cover, 1958



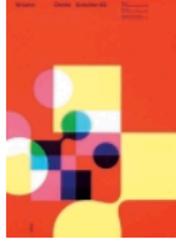
Romana Tossi, poster, 1958



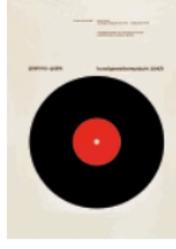
Yves José Zinnemann, poster, 1957



Karl Gerstner, advertisement, 1957



Gottlieb Soland, poster, 1957



Karl Gerstner, bag, 1957



Amin Hofmann, poster, 1957



Alfred Häbi, poster, 1957



Hans Fischer-Cros, poster, 1957



Carlo Vivanti, cover, 1958



Hans Neuburg, poster, 1958



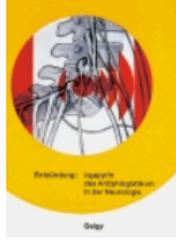
Ernst Ruder, poster, 1958



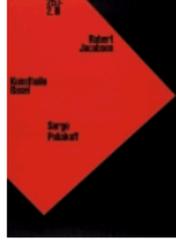
Cesario Pelli, poster, 1958



Gottfried Honegger, cover, circa 1958



Amin Hofmann, poster, 1958



Richard Paul Lohse, poster, 1958



Romana Tossi, advertisement, 1958



Josef Müller-Brockmann, poster, 1958



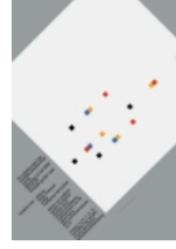
Rend Gröni, advertisement, 1958



Jean and Lucien Kröll, poster, 1958



Josef Müller-Brockmann, poster, 1959



Amin Hofmann, poster, 1959



Werner John, poster, 1959



Ruedi Rüegg, cover, 1959



Amin Hofmann, poster, 1959



Josef Müller-Brockmann, poster, 1960



Sigfried Giedermat, advertisement, 1960



Hans Neuburg, Nelly Rudin, cover, 1960



Roger Grosse, poster, 1960



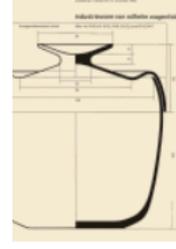
Josef Müller-Brockmann, poster, 1960



Max Bill, poster, 1960



Robin Müller, poster, 1960



Josef Müller-Brockmann, poster, 1960



Karl Gerstner, poster, 1960



Josef Müller-Brockmann, cover, 1960



Karl Gerstner, advertisement, 1960



Amin Hofmann, poster, 1960



Amin Hofmann, poster, 1963



Robin Müller, poster, 1964



Amin Hofmann, poster, 1965



Peter von Arn, poster, 1965



Swiss Graphic Design: The Origins and Growth of an International Style 1920-1965

A presentation by Richard Hollis followed by a discussion with Derek Birdsall, Ruedi Rüegg, Richard Smith and Cornelia Wintlin, supported by usm

at Central Saint Martins, Cochrane Theatre, Southampton Row, London, 5.00pm, 16 May 2006

Swiss Graphic Design Impact (Apple)



Typography

Swiss Graphic Design Fonts:

- Sans Serif: Arial, Futura, Helvetica, Univers, etc.
- Serif: Times New Roman

Usage Recommendations:

- Left-Aligned
- Italics only for titles or highlighting

Recommended Swiss Graphic Fonts

Arial typeface

Helvetica typeface

Helvetica Neue typeface

Univers typeface

Univers Condensed typeface

Times New Roman typeface

Recommended Swiss Graphic Fonts

ABCDEFGHIJKLMN
OPQRSTUVWXYZ
abcdefghijklm
nopqrstuvwxyz
1234567890

ABCDEFGHIJKLMN
OPQRSTUVWXYZÀ
ÅÉÎÏŒabcdefghijklmn
opqrstuvwxyzàåéî&1
234567890(\$£€.,!?)

46

ABCDEFGHIJKLMN
OPQRSTUVWXYZÀ
ÅÉÎÏŒabcdefghijklm
nopqrstuvwxyzàåéî
&1234567890(\$£.,!?)

45

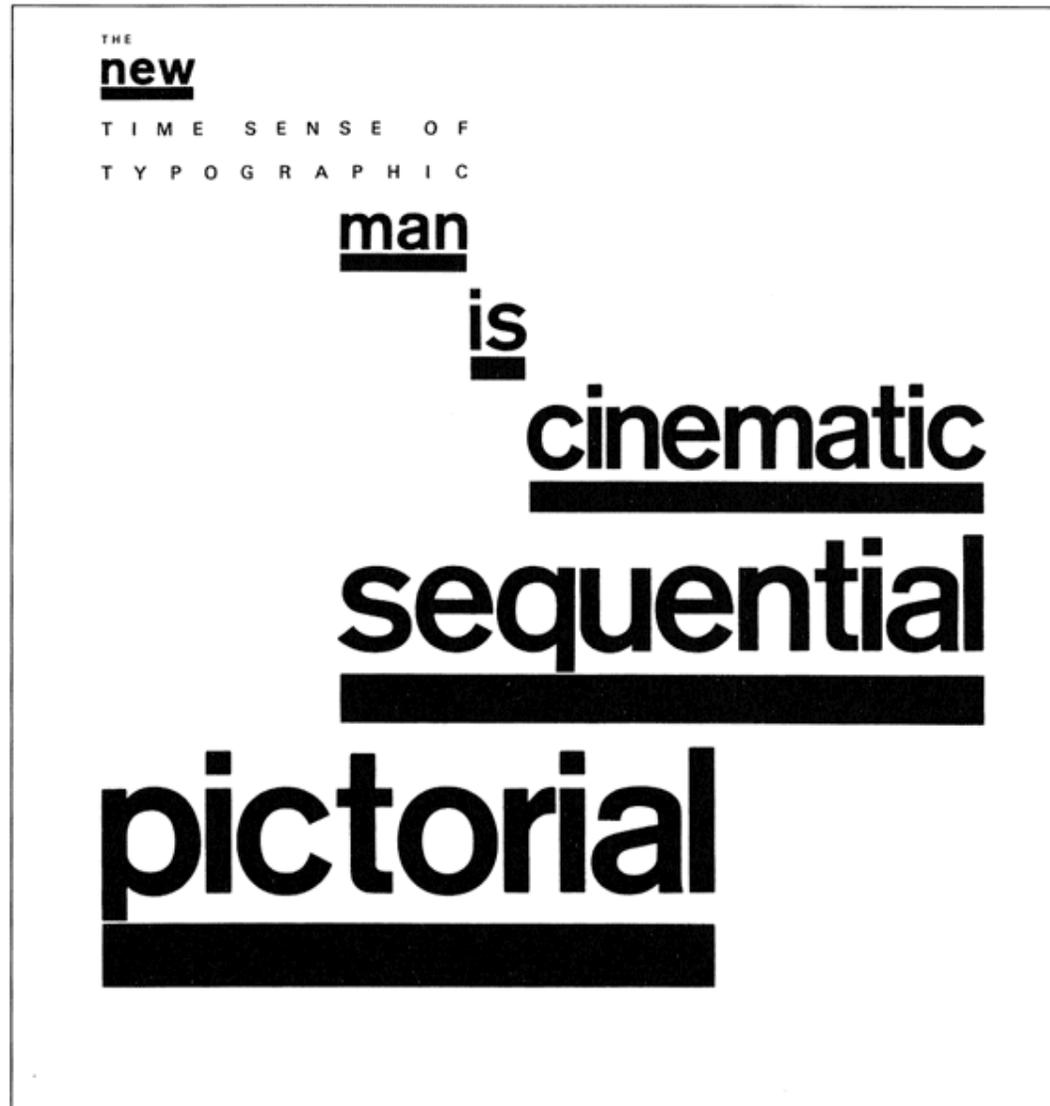
ABCDEFGHIJKLMNO
PQRSTUVWXYZÀÅÉ
abcdefghijklmnopq
rstuvwxyzàåéîøü&
1234567890(\$£.,!?)

43

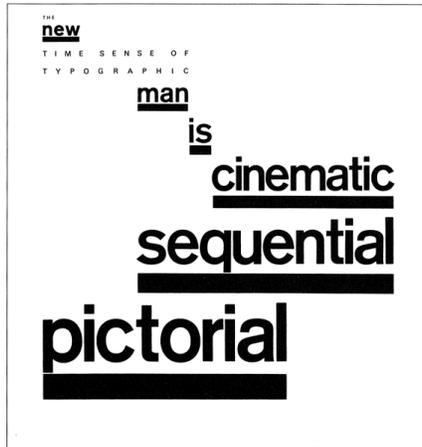
Text and Visual Direction is Culture Specific

- **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

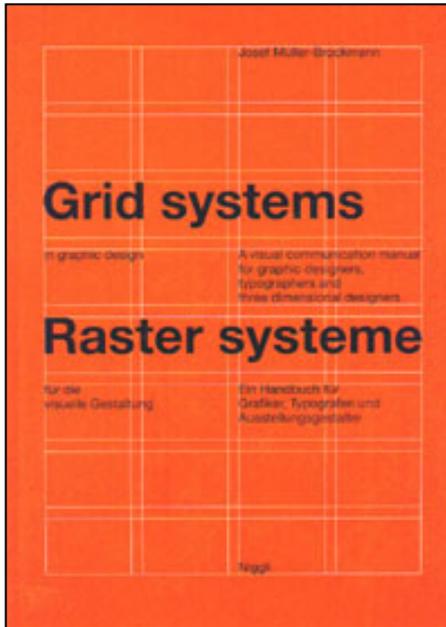


Motion, Movement Through Spatial Organization

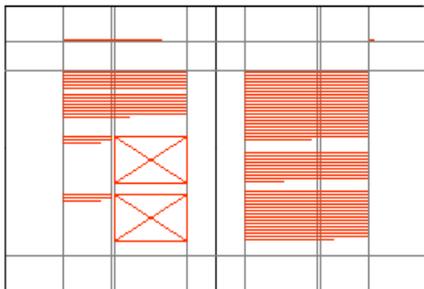


- A **space** becomes visually active when it is subdivided
- Balance is achieved through interplay of **scale**, **sequence**, and **spatial position**
- Any object placed next to each other in an image defines a **relationship** through **spatial proximity**

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 Grid System

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 1024x768 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

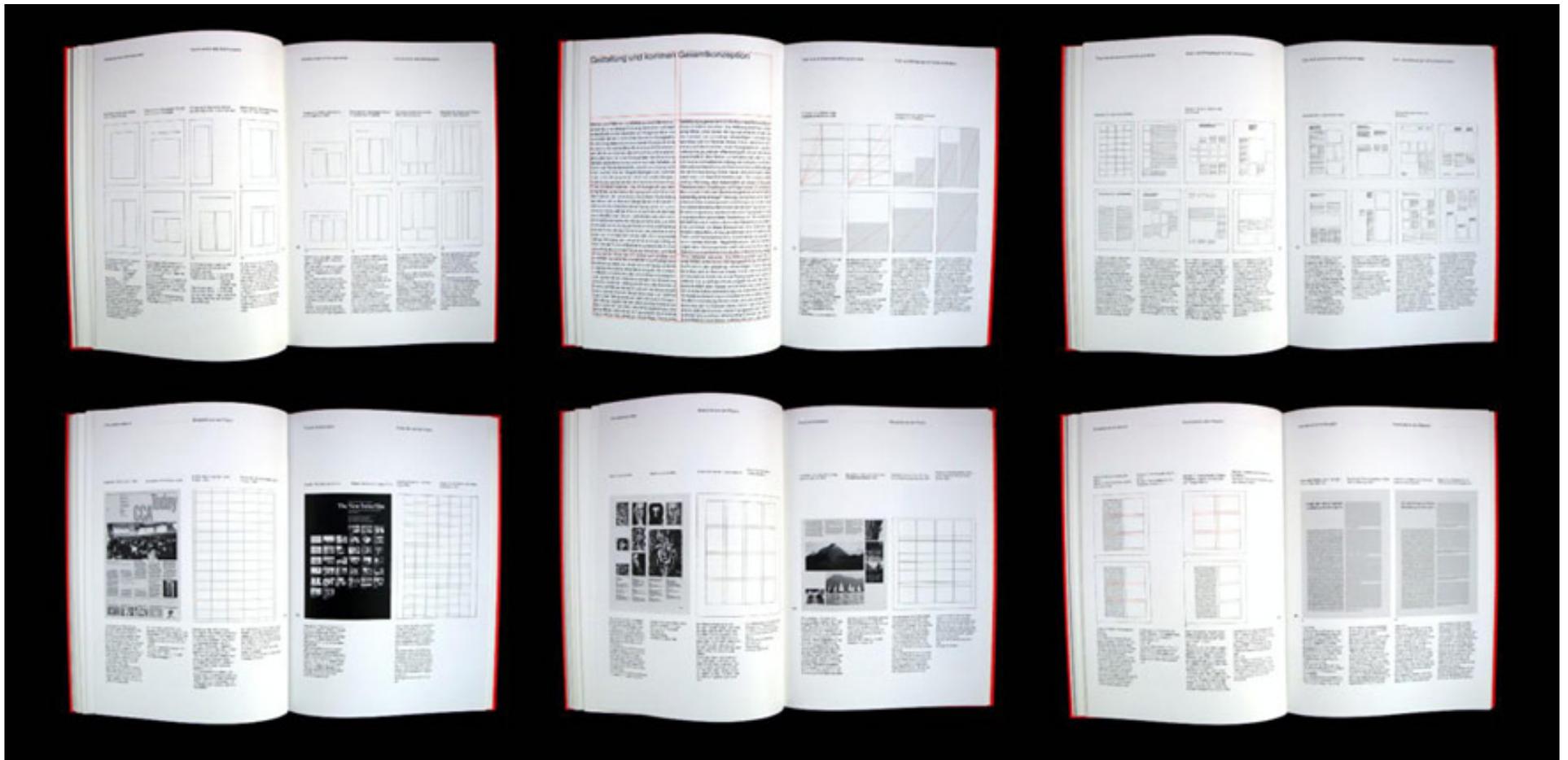
Lovely minimal grid based site design that's reminiscent of old computer paper.

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 Williams

The Grid System (Brockmann)





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Architektur Design Typografie Kunst

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| english

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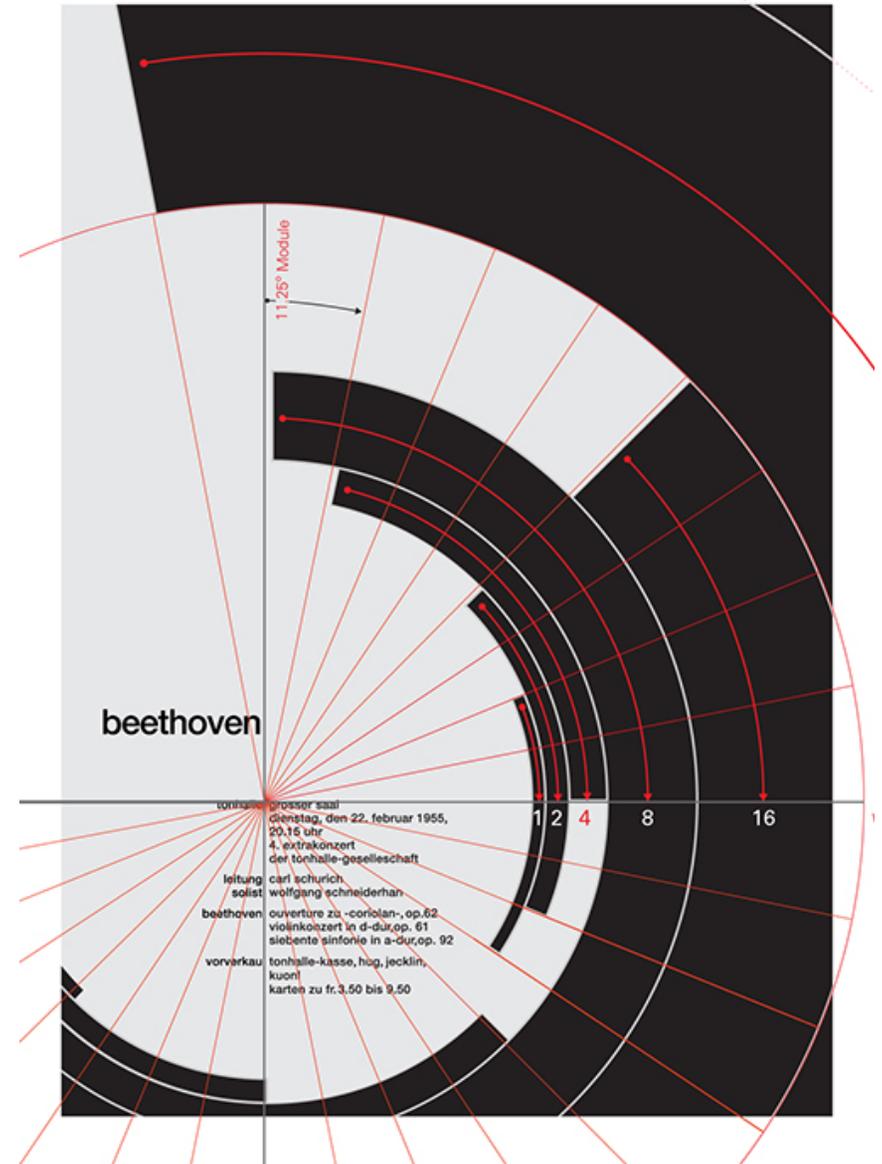
deutsch

english

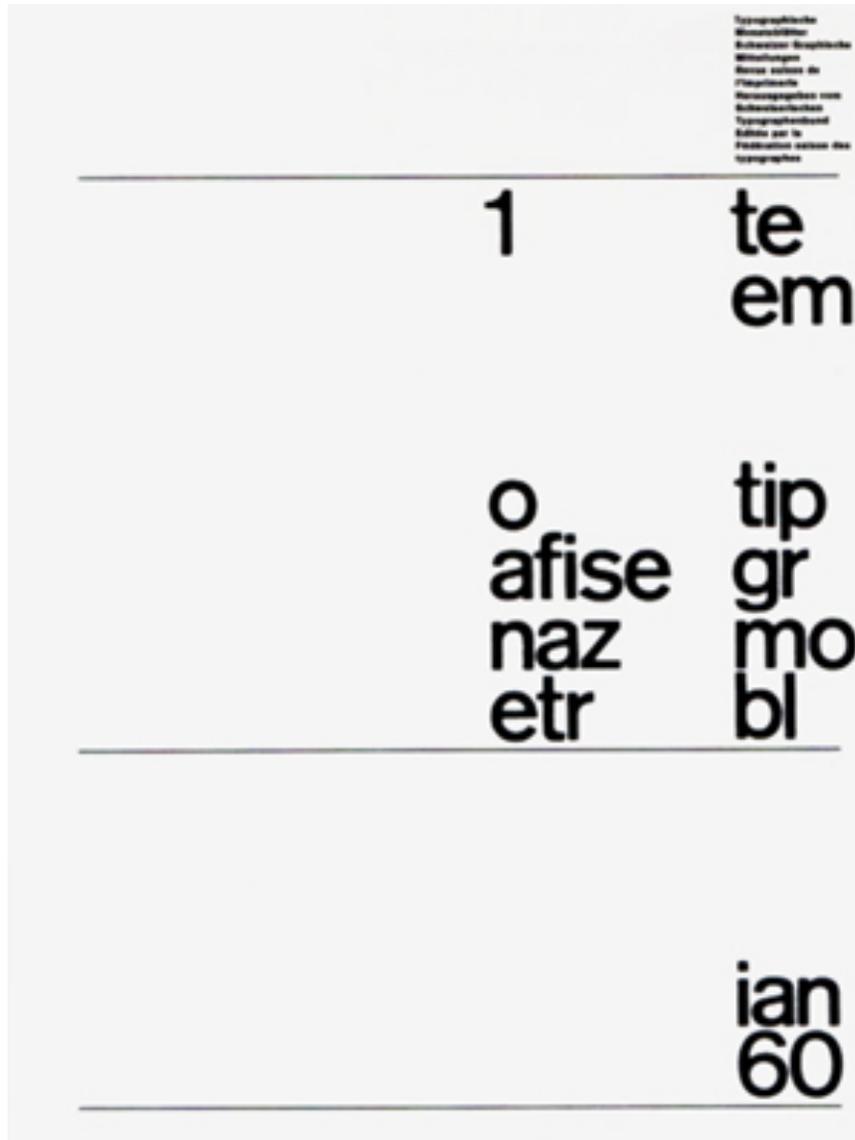
Niggli

Verlag Niggli AG | Steinackerstr. 8 | CH-8583 Sulgen | Tel. +41 71 644 91 11 | Fax + 41 71 644 91 90 | info@niggli.ch

Poster by Brockmann

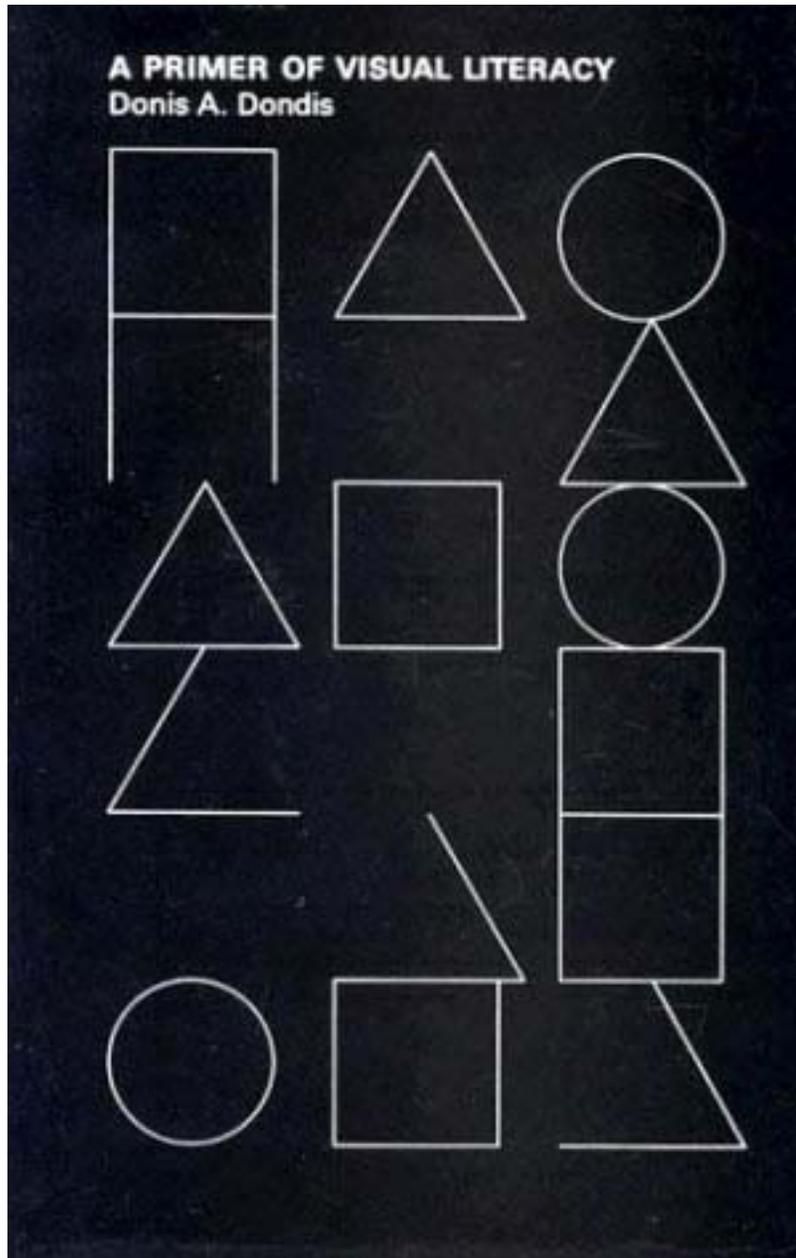


Swiss Graphic Design



Swiss Graphic Design





“A Primer of Visual Literacy”
Donis A. Dondis

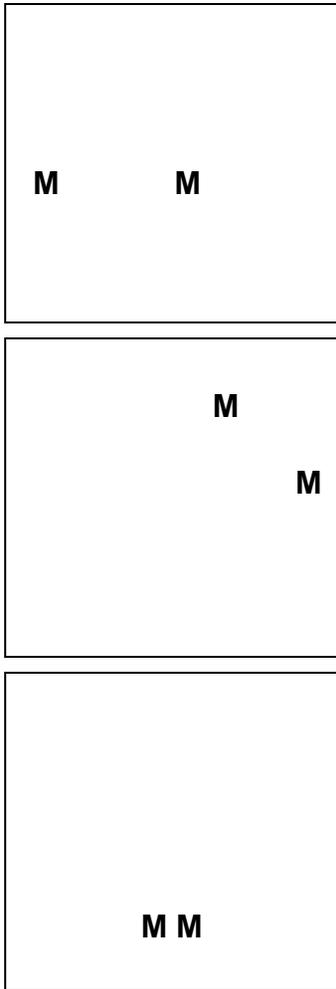
MIT PRESS, 1974

Clarifies the basic elements of design to show how they are used in simple syntactical combinations

Visual Basic Literacy: Basic Units (Dondis)

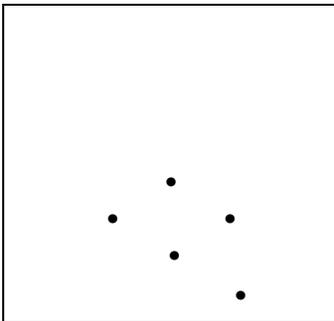
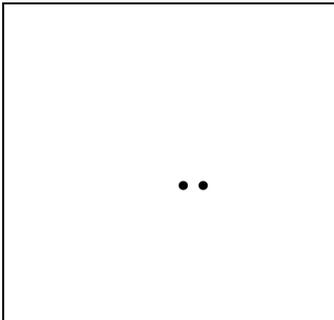
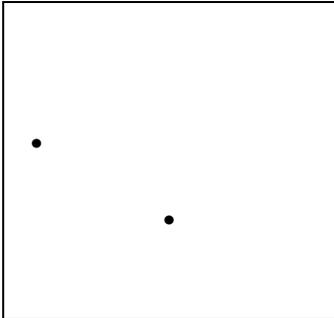
- **Dot:** Minimal unit, pointer, marker of space
- **Line:** Joins dots, articulator of space
- **Shape:** Line describes and encloses space
- **Direction:** Thrust of movement
- **Tone:** The intensity of lightness or darkness
- **Color:** Associative and symbolic meanings
- **Texture:** Quality of touching, looks/feels like
- **Scale:** Relative proportion & measurement
- **Space:** Organization of
- **Motion:** Visual elements guiding the viewer

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**

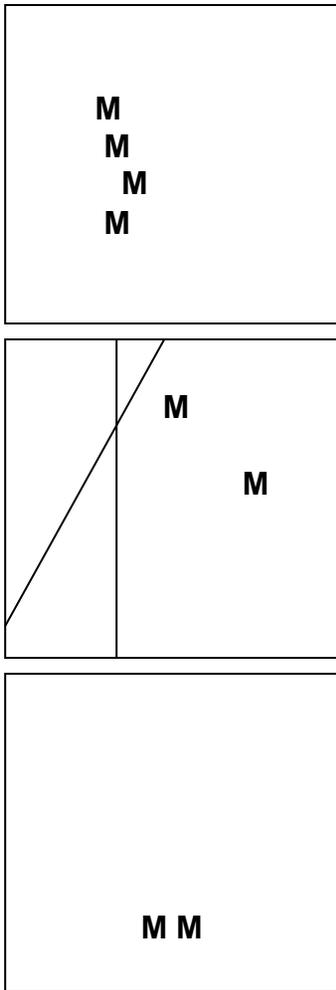
Visual Groupings in Space



- **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)

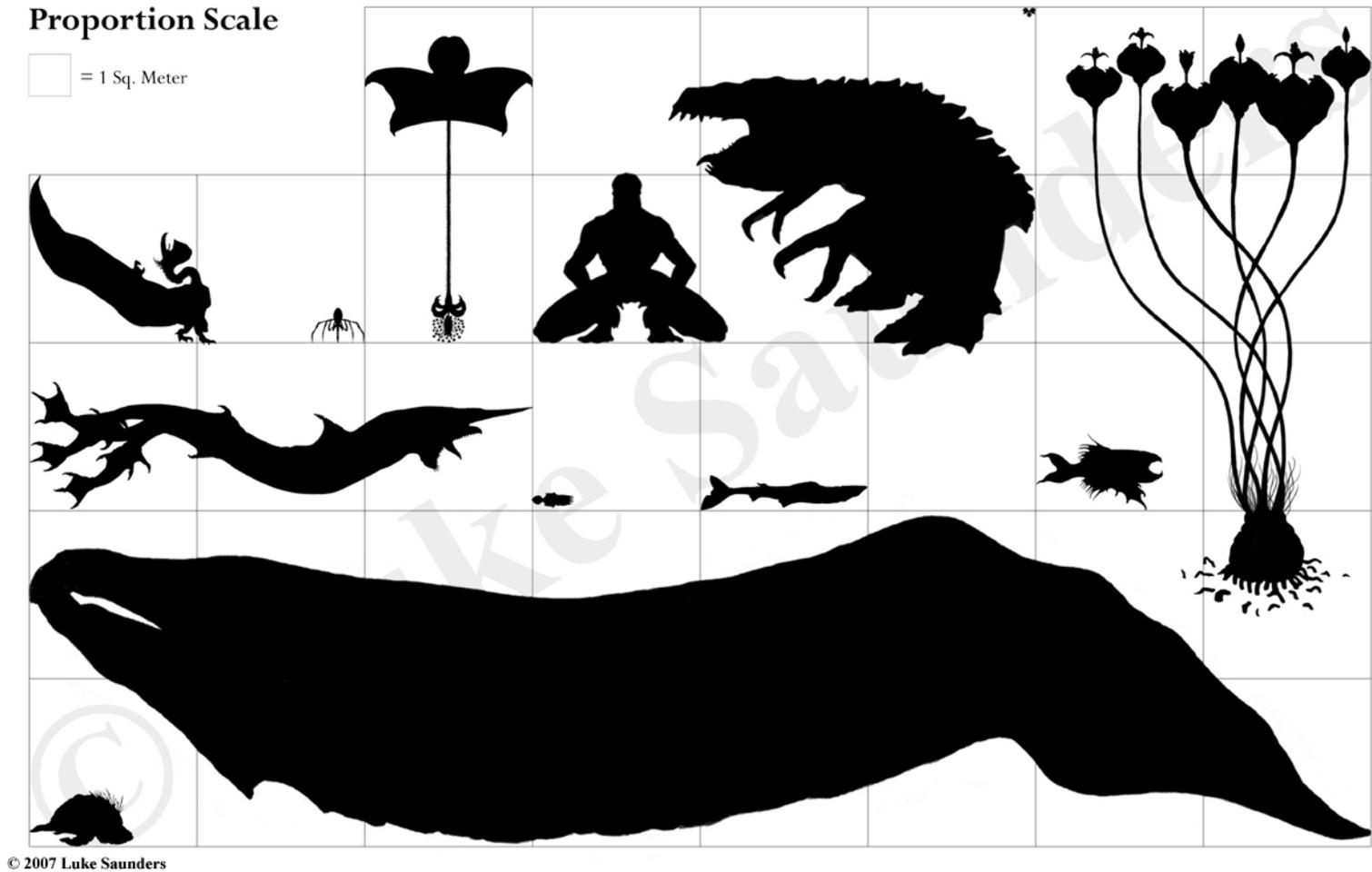
Opposites repel, similars attract

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



Color Relationships

- Black & White or color?
- If black and white – what about grey tones?
- If color, how many? (Limit to 3 to 6?)

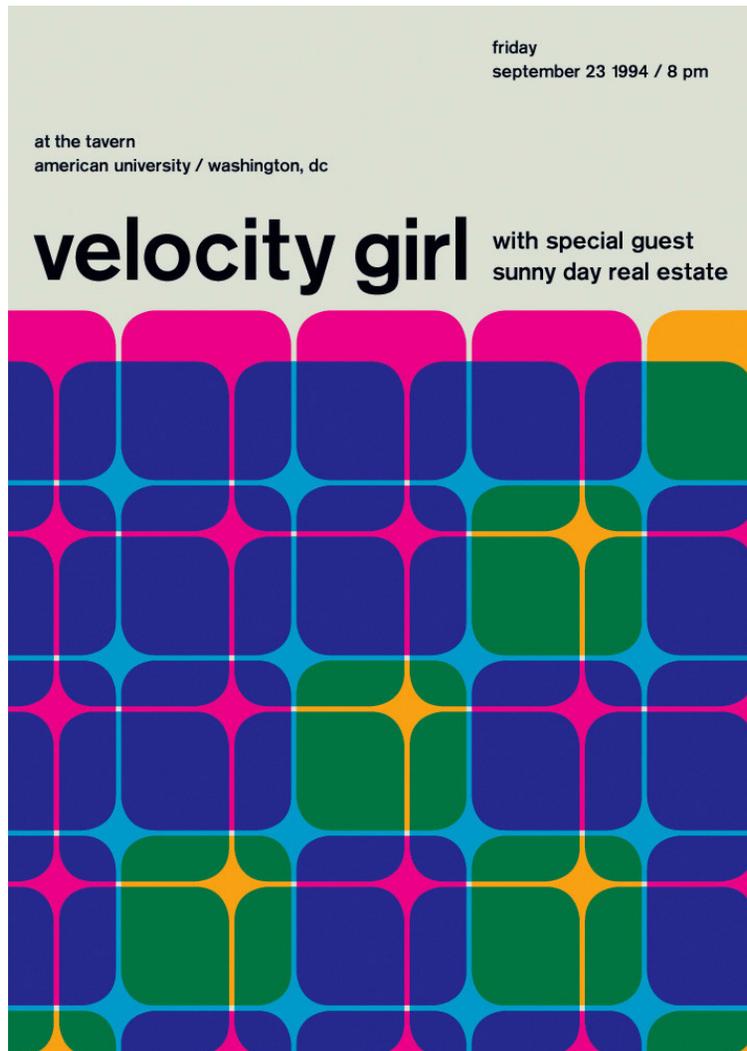
Color Tools & References

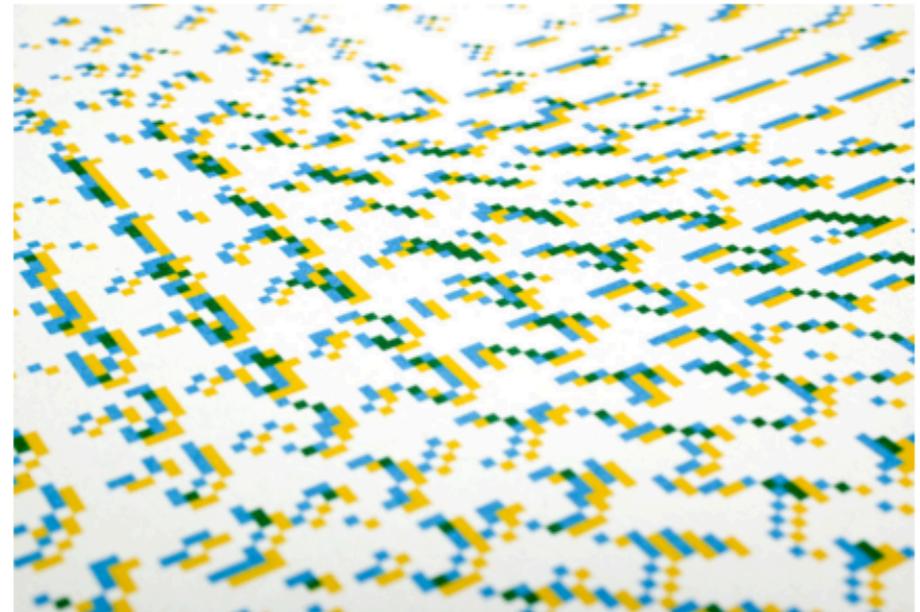
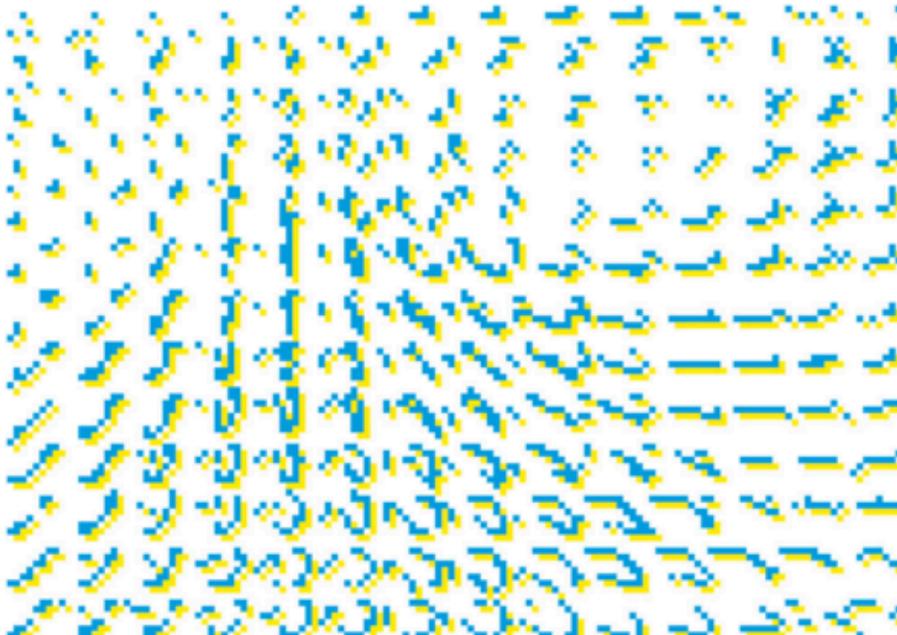
<http://tristen.ca/hcl-picker/#/hlc/6/1/21313E/EFEE69>

[Problems of equidistant HSV](#)

[Swissted Graphic Posters](#)

Color Relationships





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_004510.18 ORIENT:+ GENE-NAME:FAM76A GENEID:199970 CHR-START:27925076 CHR-STOP:27960702 FEATURE-TYPE:GENE GROUP-LABEL:REFERENCE TRANSCRIPT:- EVIDENCE-CC

CHROMOSOME:02 CONTIG:NT_022184.14 ORIENT:- GENE-NAME:NAT8 GENEID:9027 CHR-START:73721464 CHR-STOP:73729032 FEATURE-TYPE:GENE GROUP-LABEL:REFERENCE TRANSCRIPT:- EVIDENCE-CC

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:- EVIDENCE-CC

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-CC

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:- EVIDENCE-CC

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:- EVIDENCE-CC

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-CC

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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-CODE

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:- EVIDENCE-CC

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:- EVIDENCE-CC

CHROMOSOME:14 CONTIG:NT_026437.11 ORIENT:+ GENE-NAME:LOC644925 GENEID:644925 CHR-START:54102592 CHR-STOP:54104136 FEATURE-TYPE:GENE GROUP-LABEL:REFERENCE TRANSCRIPT:- EVIDENCE-CC

CHROMOSOME:15 CONTIG:NT_010194.16 ORIENT:- GENE-NAME:VPS13C GENEID:54832 CHR-START:59931880 CHR-STOP:60139940 FEATURE-TYPE:GENE GROUP-LABEL:REFERENCE TRANSCRIPT:- EVIDENCE-CC

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:- EVIDENCE-CC

CHROMOSOME:17 CONTIG:NT_010799.14 ORIENT:+ GENE-NAME:SLC13A2 GENEID:9058 CHR-START:23824792 CHR-STOP:23848514 FEATURE-TYPE:GENE GROUP-LABEL:REFERENCE TRANSCRIPT:- EVIDENCE-CC

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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:- EVIDENCE-CC

CHROMOSOME:22 CONTIG:NT_011520.11 ORIENT:+ GENE-NAME:GGRI GENEID:26088 CHR-START:36334448 CHR-STOP:36359516 FEATURE-TYPE:GENE GROUP-LABEL:REFERENCE TRANSCRIPT:- EVIDENCE-CC

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:- EVIDENCE-CC

CHROMOSOME:Y CONTIG:NT_011875.11 ORIENT:+ GENE-NAME:CYORF15B GENEID:84663 CHR-START:20213724 CHR-STOP:20225768 FEATURE-TYPE:GENE GROUP-LABEL:REFERENCE TRANSCRIPT:- EVIDENCE-CC

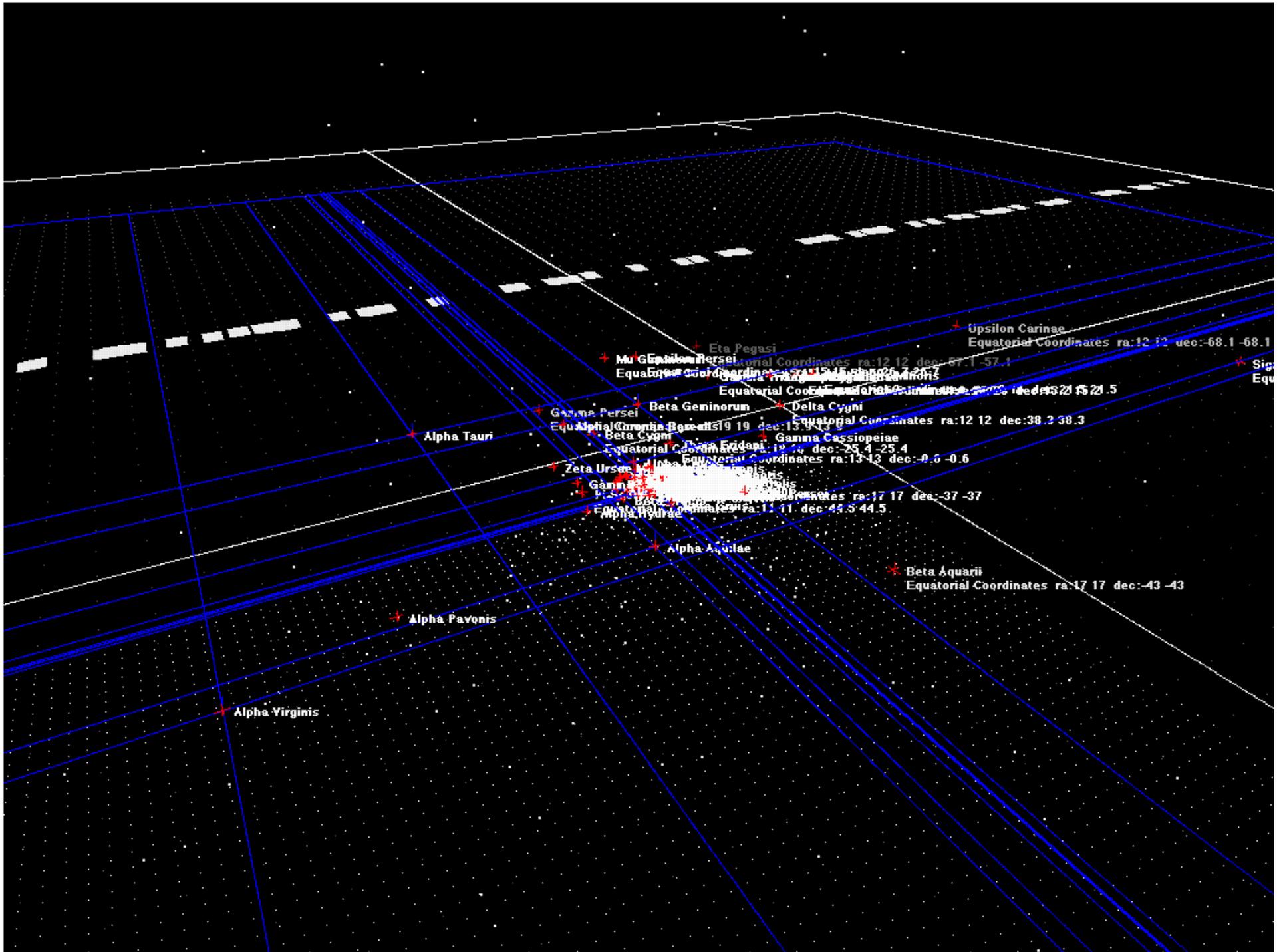


Image Complexity – Balance & Sub Division

- 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

Resources: Some Design Firms & Others

- [Metadesign](#)
- [Bruce Mau \(SPL\)](#)
- [LTL](#) (Architectural design)
- [Columbia School of Architecture](#)
- [Sensible City MIT](#)
- [LTL Architects](#)
- [Herzog de Meuron](#)
- [OMA](#) (Office of Metropolitan Architecture)