# 18 Organic Design - Streamlining - Mid-Century Modern, Pop Art

Monday, March 4, 2024 1:45 PM

yes
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first

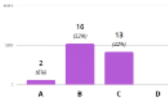
## TODAY

- Admin
- Presentations
- Organic Design
- Streamlining
- Drawing: shade and shadow in perspective

## Admin

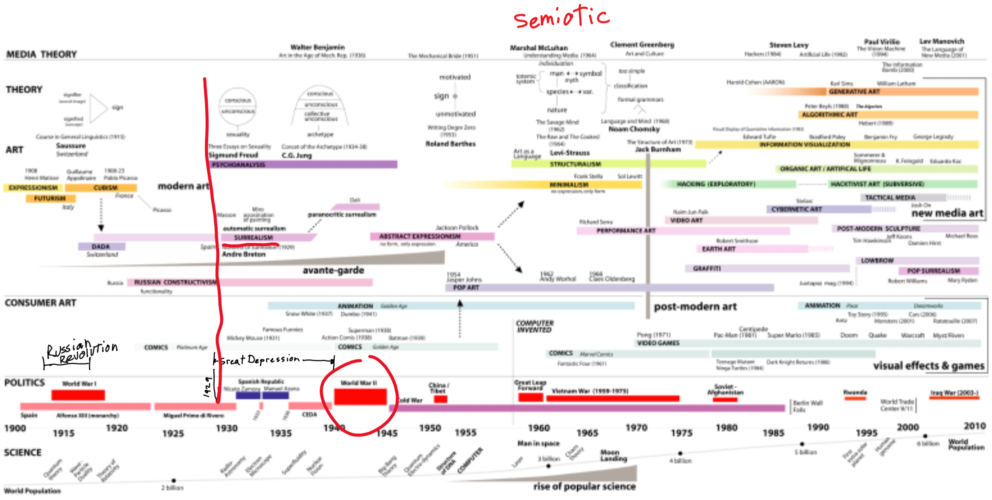
Too many posts have no comments. Would you rather

a) Comment on 3 posts
b) Comment only on posts with no comments
c) Comment on the first post on the list, and then one of your choice
d) Other suggestions?



Presentation

| | |
|---|---|
| Tim Hellweg | Typography |



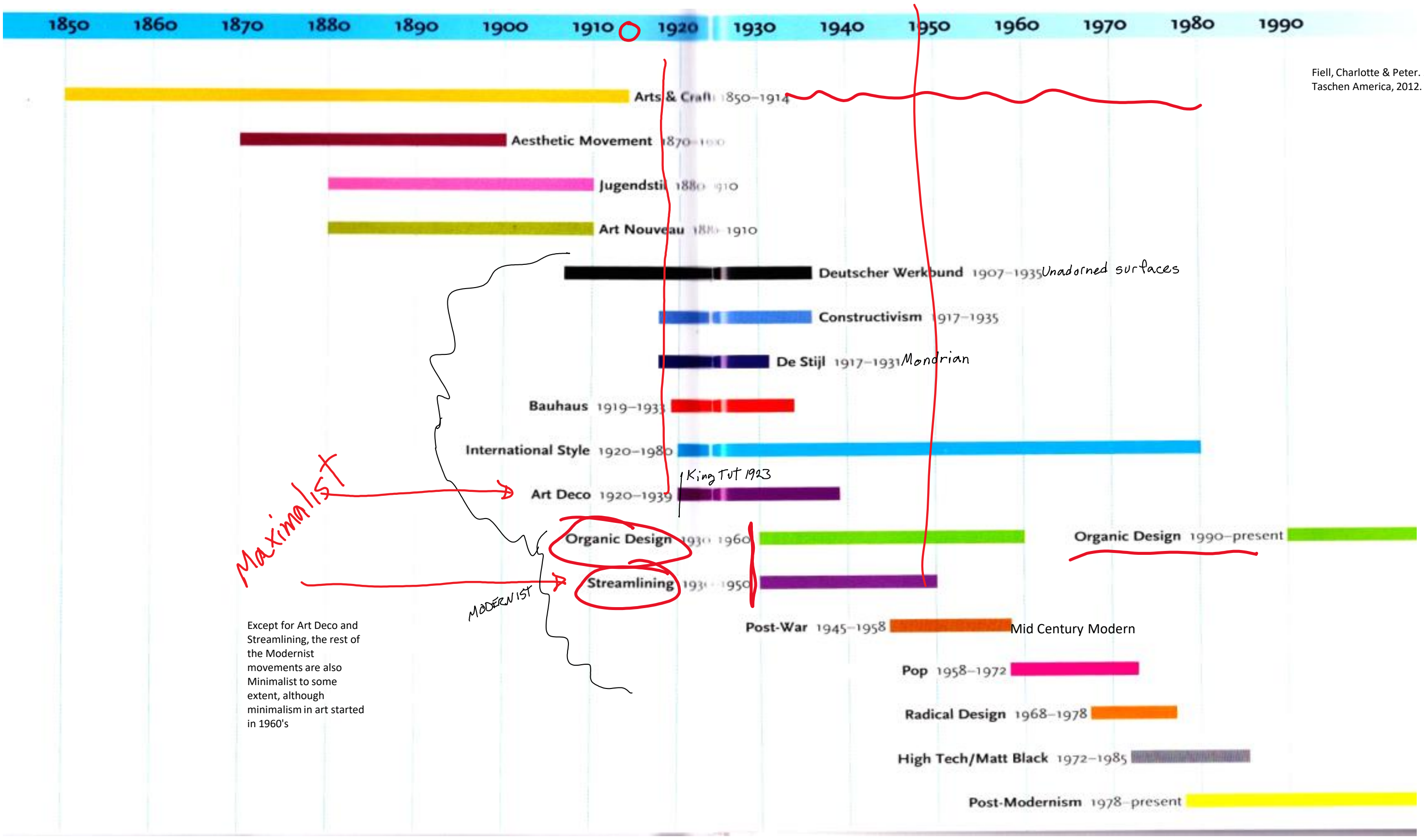
semiotic
MEDIA THEORY
THEORY
ART
modern art
avante-garde
CONSUMER ART
post-modern art
new media art
visual effects & games
POLITICS
SCIENCE
World Population
Russian Revolution
Great Depression
1929
World War I
World War II
Cold War
Vietnam War (1959-1975)
Iraq War (2003-)
EXPRESSIONISM
CUBISM
FUTURISM
DADA
SURREALISM
PSYCHOANALYSIS
RUSSIAN CONSTRUCTIVISM
ABSTRACT EXPRESSIONISM
POP ART
STRUCTURALISM
MINIMALISM
PERFORMANCE ART
EARTH ART
GRAFFITI
ANIMATION
COMICS
VIDEO GAMES
COMPUTER INVENTED
GENERATIVE ART
ALGORITHMIC ART
INFORMATION VISUALIZATION
ORGANIC ART / ARTIFICIAL LIFE
HACKING (EXPLORATORY)
HACKTIVIST ART (SUBVERSIVE)
TACTICAL MEDIA
CYBERNETIC ART
POST-MODERN SCULPTURE
LOWBROW
POP SURREALISM
Walter Benjamin
Marshal McLuhan
Clement Greenberg
Steven Levy
Paul Virilio
Lev Manovich
Saussure
Sigmund Freud
C.G. Jung
Andre Breton
Roland Barthes
Levi-Strauss
Noam Chomsky
Jack Burnham
1900
1915
1920
1925
1930
1935
1940
1945
1950
1955
1960
1965
1970
1975
1980
1985
1990
1995
2000
2010
2 billion
3 billion
4 billion
5 billion
6 billion
Man in space
Moon Landing
rise of popular science

Timeline of 20th c. Art and New Media

Rama Hoetzlein (c) 2011
www.rchoetzlein.com

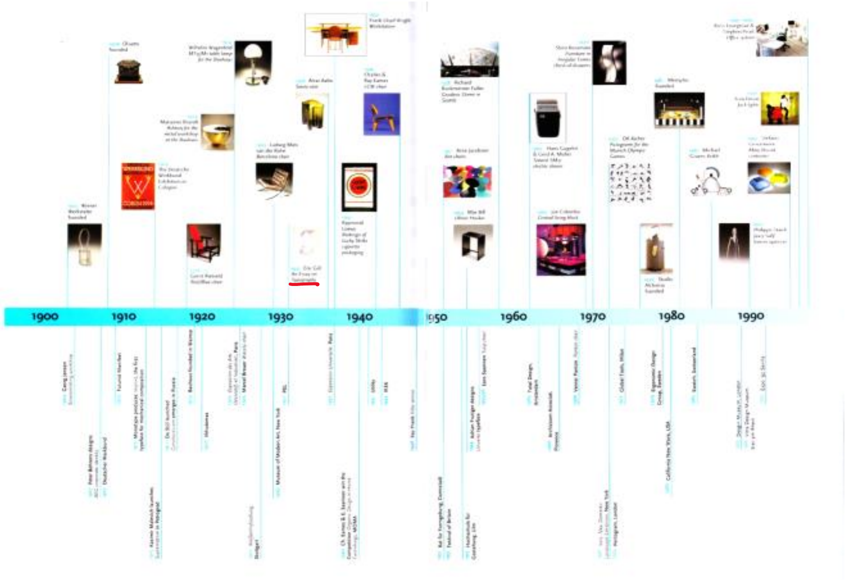
streamlining developed
1920-1940
as aeronautics developed

http://www.rchoetzlein.com/website/artmap/



Fiell, Charlotte & Peter. *Design of the 20th Century*. Taschen America, 2012.

Except for Art Deco and Streamlining, the rest of the Modernist movements are also Minimalist to some extent, although minimalism in art started in 1960's



Fiell, Charlotte & Peter. *Design of the 20th Century*. Taschen America, 2012.

## Organic Design 1930-1960, revived 1990 - present

Humanized design. Holistic approach:
**Organic architecture** is a philosophy of architecture which promotes harmony between human habitation and the natural world through design approaches so sympathetic and well integrated with its site, that buildings, furnishings, and surroundings become part of a unified, interrelated composition.

From <https://en.wikipedia.org/wiki/Organic_architecture >

Prime example: Frank Lloyd Wright
https://www.google.com/search?biw=1218&bih=596&tbm=isch&q=frank+lloyd+wright+buildings&revid=1463113666&sa=X&ved=0ahUKEwjigMePksTLAhUG9mMKHezyDgcQ1QIIIg

Guggenheim NYC

Check out
99% invisible

https://99percentinvisible.org/episode/usonia/

Also Charles and Ray Eames: unity of structural, material, functional design
More on them when we do Chairs

https://www.fastcompany.com/3055758/tracing-the-long-controversial-history-of-organic-design:
MOMA show in 1941: Winner got their piece mass produced. Prior, organic design was natural materials, made with Arts and Crafts dedication. Often curved forms but not always (think Art Deco).
After 1941, crafts portion was demoted.

Other Organic design furniture

https://www.google.com/search?q=organic+design&tbm=isch&tbo=u&source=univ&sa=X&ved=0ahUKEwi9ion_kMTLAhVN_-GMKHTN_BakQsAQIHA&biw=873&bih=527&dpr=1.5

https://en.wikipedia.org/wiki/Glass_House

https://www.google.com/search?tbm=isch&q=international+style+furniture&revid=530428988&sa=X&ved=0ahUKEwjfnd7y98PLAhVV5WMKHYZ6Ap8Q1QIIKA&dpr=1.5&biw=1218&bih=388

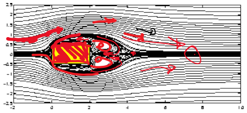
Led to Biomorphism , Biomimetics, in robotics today
Unlike Organic Design, which is informed by nature and attempts to capture its abstract essence, Biomorphism copies and often distorts forms found in the natural world for purely decorative purposes.
From Fiell *Design of the 20th Century*

**Biomorphism** is an art movement that began in the 20th century. It models artistic design elements on naturally occurring patterns or shapes reminiscent of nature and living organisms. Taken to its extreme it attempts to force naturally occurring shapes onto functional devices.
From <https://en.wikipedia.org/wiki/Biomorphism>

Kidney shaped pools; kitchy 1950's appearances.
Why is this attractive? Contour Bias - part of Universal Principles of Design, (UPD) coming up after history.

## Streamlining 1930-1950

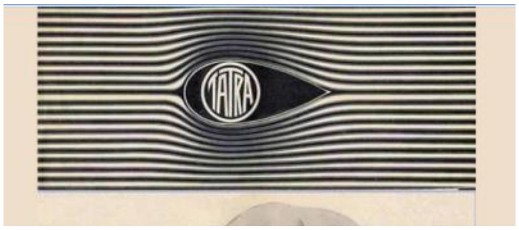
Streamlines in a flow are defined by being tangent to the flow field. Streamlines show the direction of the flow.



http://www.ams.sunysb.edu/~dyu/album/node3.html

aspect ratios = 2.

When an object follows the contours of the flow streamlines, drag is reduced (form drag, not viscous drag). This is 'streamlining' the object.



http://www.ams.sunysb.edu/~dyu/album/node3.html

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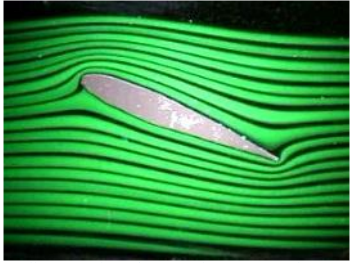
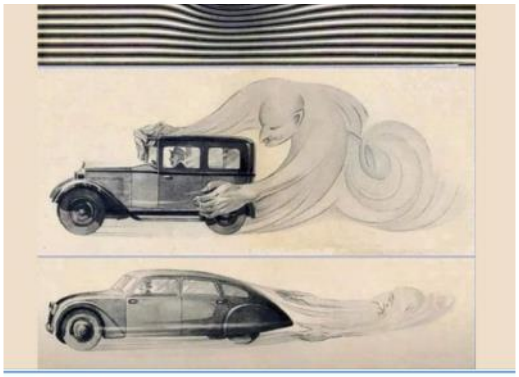


http://web.mit.edu/13.021/13021_2003/Lifting%20surfaces/lectureC.htm



**Historic Photographs**

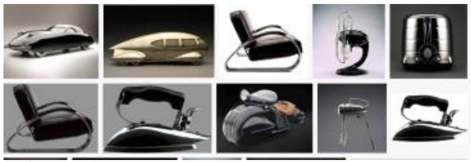
February 1 at 2:11 PM ·

Car manufacturer Tatra explaining aerodynamics (1934) in a simple way for anyone to understand.

(Image originally extracted from Tatra T77 brochure. Photo credit: Tatra - The Legacy of Hans Ledwinka).

This was discovered as aeronautics was developed, WWI to WWII. It percolated into the popular culture.

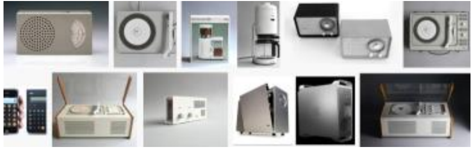
Design in a Nutshell, from the British Open University: American Industrial Design.
http://www2.open.ac.uk/openlearn/design_nutshell/index.php#



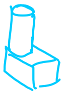
https://www.google.com/search?q=streamline+design&tbm=isch&imgil=vK7lqt0a9GdxeM%253A%253BvV71qdQVoug_CM%253Bhttp%25253A%25252F%25252Fblog.hemmings.com%25252Findex.php%25252F2014%25252F05%25252F29%25252F1930s-auto-design-art-deco-and-streamline-moderne%25252F&source=iu&pf=m&fir=vK7lqt0a9GdxeM%253A%252CvV71qdQVoug_CM%252C_&usg=__ymwMvtyvvvg0cYw3tpBfO63avyE%3D&biw=1218&bih=596&ved=0ahUKEwiw_KStnMTLAhUK02MKHTH5C6sQyjcILw&ei=PM3oVrDuIYqmjwOx8q_YCg#imgrc=_

## Post War Design

Wikipedia says that American version of Bauhaus and International is Mid-Century Modern.
"Good Design" = Rational approach to design process using the formal, technical and aesthetic principles of the Modern Movement. Used heavily at Braun. Designer: Dieter Rams



Scandinavian design

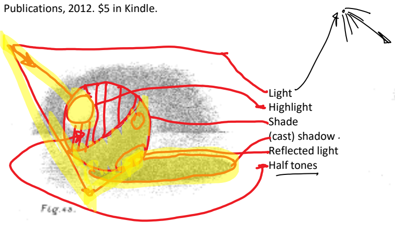


Two movies with great 1950's aesthetics:
Kitchen Stories, a sweet film set in Norway
The Shape of Water, has excellent grungy post-WWII green industrial equipment.

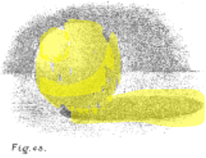
sketching

## Shading Review

Sparkes, W. E. *Lessons on Shading*. Dover Ed edition. Dover Publications, 2012. $5 in Kindle.

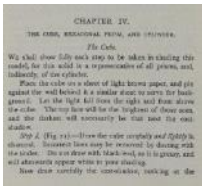


Concepts vector drawing app
Procreate for ipad



## Shading and Shadow of Cubes

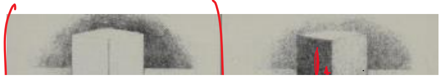
To make a cube to use as a model, try this origami:
https://www.youtube.com/watch?v=0oMf8L9ekys
I like these instructions by Jo Nakashima. There is silence after the brief intro, and he uses an intuitive notation showing folds and creases.



CHAPTER IV.

THE CUBE, HEXAGONAL PRISM, AND CYLINDER.

*The Cube.*



Now draw carefully the cast-shadow, looking at the

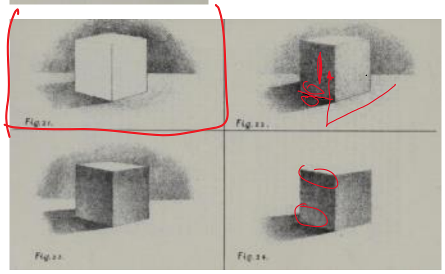
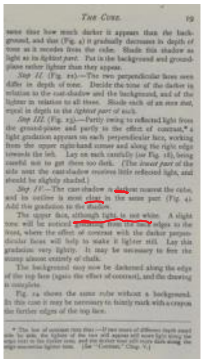


Fig. 21.
Fig. 22.
Fig. 23.
Fig. 24.



THE CUBE. 19

same time how much darker it appears than the background, and that (Fig. 4) it gradually decreases in depth of tone as it recedes from the cube. Shade this shadow as light as its *lightest part*. Put in the background and ground-plane rather lighter than they appear.

*Step II.* (Fig. 22).—The two perpendicular faces seen differ in depth of tone. Decide the tone of the darker in relation to the cast-shadow and the background, and of the lighter in relation to all three. Shade each of an *even tint*, equal in depth to the *lightest part* of each.

*Step III.* (Fig. 23).—Partly owing to reflected light from the ground-plane and partly to the effect of contrast,* a light gradation appears on each perpendicular face, working from the upper right-hand corner and along the right edge towards the left. Lay on each carefully (see Fig. 18), being careful not to get them too dark. (The *lowest part* of the side near the cast-shadow receives little reflected light, and should be slightly shaded.)

*Step IV.*—The cast-shadow is darkest nearest the cube, and its outline is most clear in the same part (Fig. 4). Add this gradation to the shadow.

The upper face, although light, is not white. A slight tone will be noticed gradating from the back edges to the front, where the effect of contrast with the darker perpendicular faces will help to make it lighter still. Lay this gradation very lightly. It may be necessary to free the stump almost entirely of chalk.

The background may now be darkened along the edge of the top face (again the effect of contrast), and the drawing is complete.

Fig. 24 shows the same cube without a background. In this case it may be necessary to faintly mark with a crayon the farther edges of the top face.

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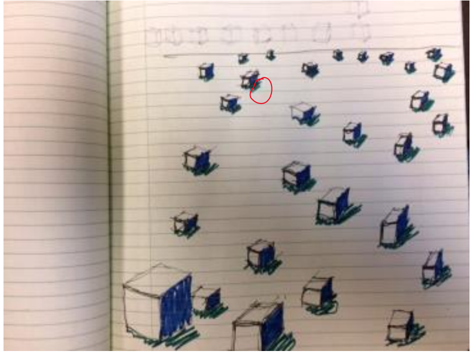
* The law of contrast runs thus:—If two tones of different depth stand side by side, the lighter of the two will appear still more light along the edge next to the darker tone, and the darker tone will more dark along the edge next the lighter tone. (See "Contrast," Chap. V.)

HW 5

Draw a plane of cubes, with shading

Adding a bit of shading makes it look like art.

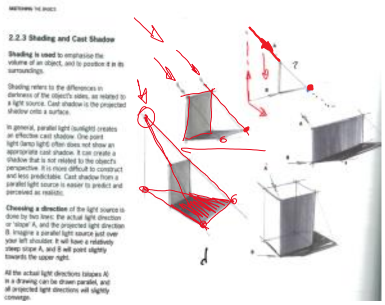


Got to here

## Shadow in 2 point perspective

Three levels of rigor:

1) Assume diffuse light, and shade undersides. Guess at shadow outline, fade edges of shadow.
2) Assume sunlight, parallel light. Draw parallel lines from each corner, guess at intersection with ground plane (Sketching: The Basics method). Violates 2 point perspective, however.



SKETCHING THE BASICS

### 2.2.3 Shading and Cast Shadow

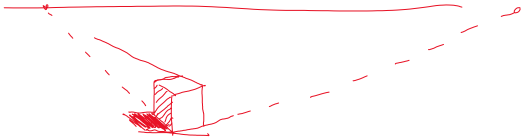
**Shading is used** to emphasise the volume of an object, and to position it in its surroundings.

Shading refers to the differences in darkness of the object's sides, as related to a light source. Cast shadow is the projected shadow onto a surface.

In general, parallel light (sunlight) creates an effective cast shadow. One point light (lamp light) often does not show an appropriate cast shadow. It can create a shadow that is not related to the object's perspective. It is more difficult to construct and less predictable. Cast shadow from a parallel light source is easier to predict and perceived as realistic.

**Choosing a direction** of the light source is done by two lines: the actual light direction or 'slope' A, and the projected light direction B. Imagine a parallel light source just over your left shoulder. It will have a relatively steep slope A, and B will point slightly towards the upper right.

All the actual light directions (slopes A) in a drawing can be drawn parallel, and all projected light directions will slightly converge.

Keyshot
$$?