

Univerzitet u Beogradu
Filozofski fakultet
Odeljenje za psihologiju

Slobodan Marković

PSIHOLOGIJA UMETNOSTI

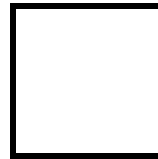
Treće predavanje: ZLATNI PRESEK, KOMPOZICIJA

KLASIČNA EKSPERIMENTALNA ESTETIKA



G. T. Fechner, 1876: Vorschule der Aesthetik

ESTETIKA ODOZDO: jednostavne forme i sklopovi



ESTETIKA ODOZGO: složene umetničke kompozicije



KLASIČNA EKSPERIMENTALNA ESTETIKA

G. T. Fechner, 1876: Vorschule der Aesthetik

METODE

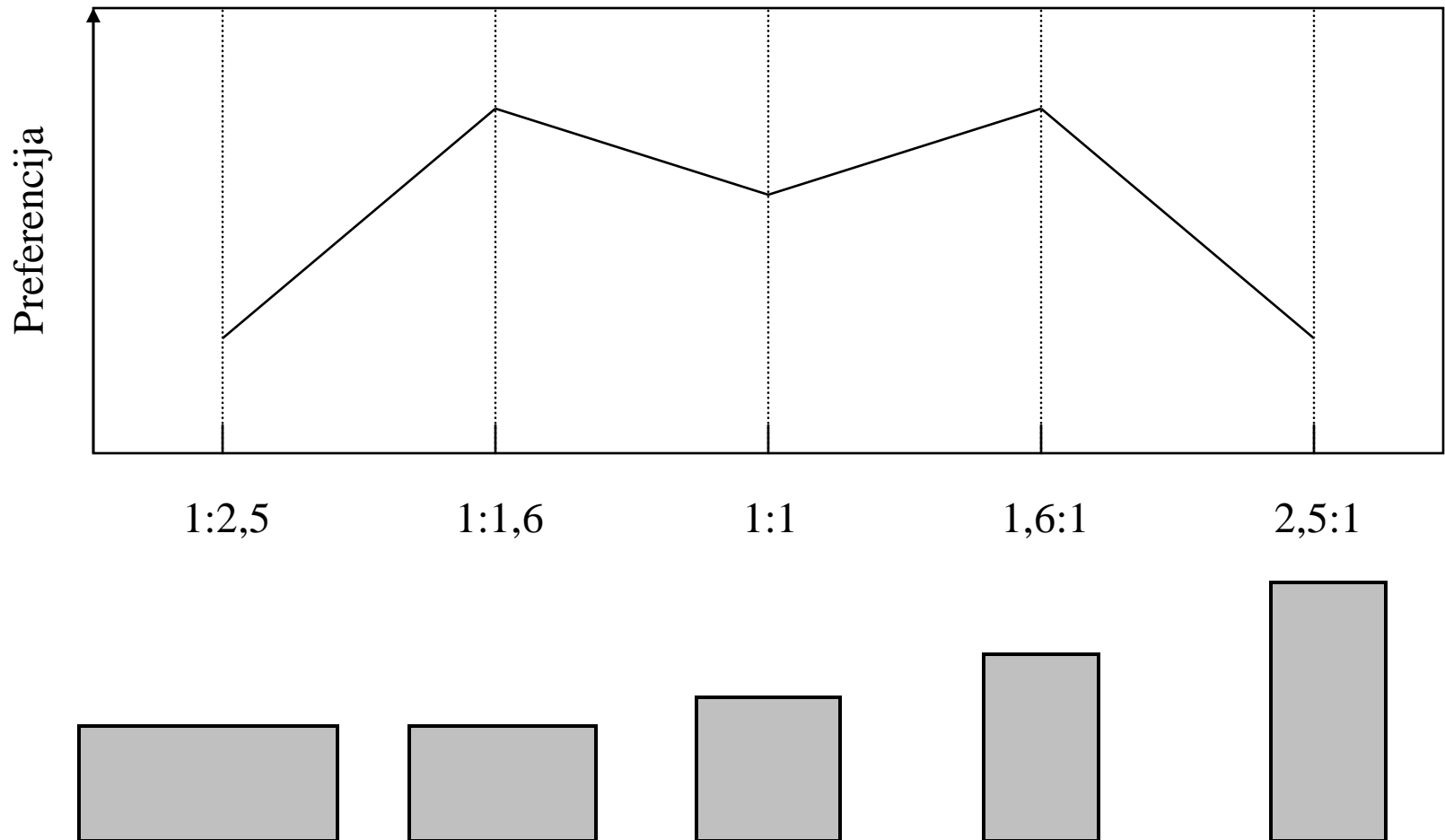
PROCENA (preferencija, rangovanje i sl.)

PRODUKCIJA (podešavanje optimalnih odnosa)

UPOTREBA (analiza gotovih produkata)

KLASIČNA EKSPERIMENTALNA ESTETIKA

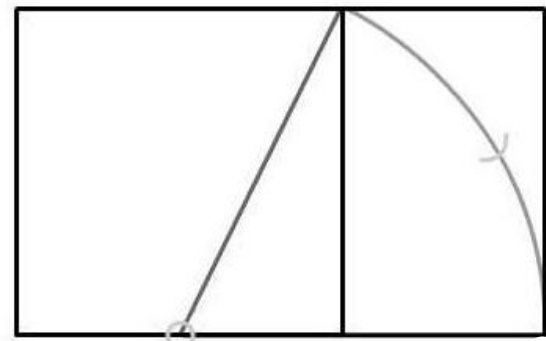
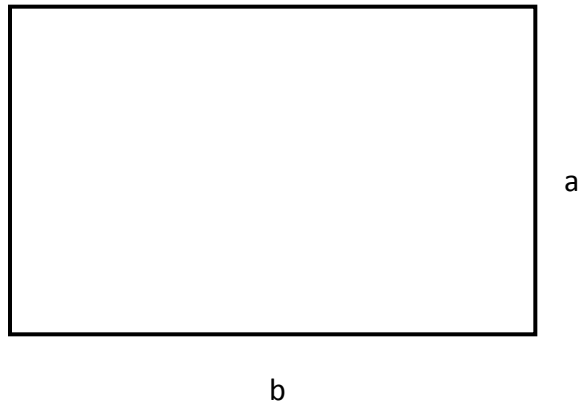
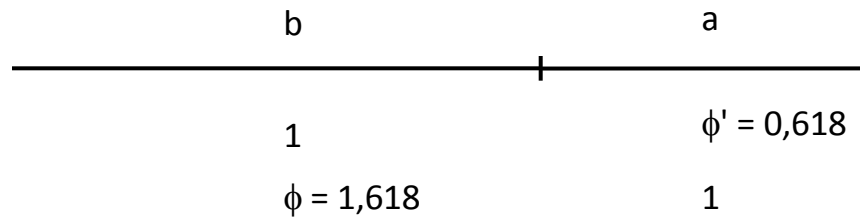
G. T. Fechner, 1876: Vorschule der Aesthetik



ZLATNI PRESEK

BOŽANSKA PROPORCIJA:

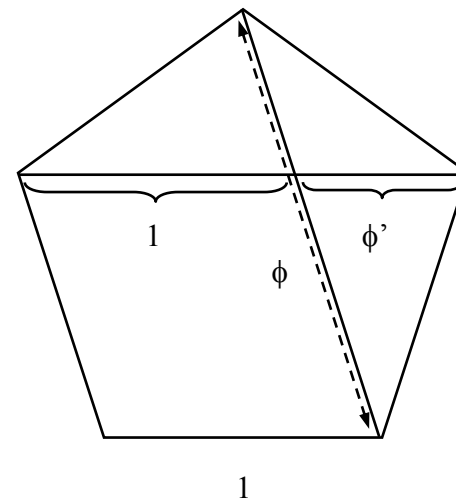
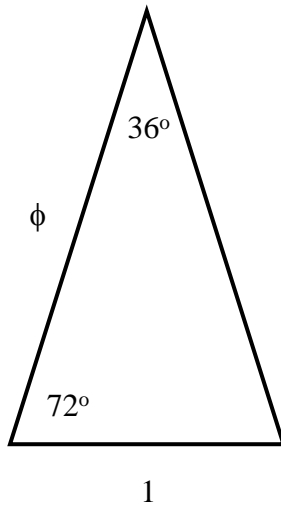
$$a/b = b/(a+b)$$



ZLATNI PRESEK

BOŽANSKA PROPORCIJA:

$$a/b = b/(a+b)$$



ZLATNI PRESEK

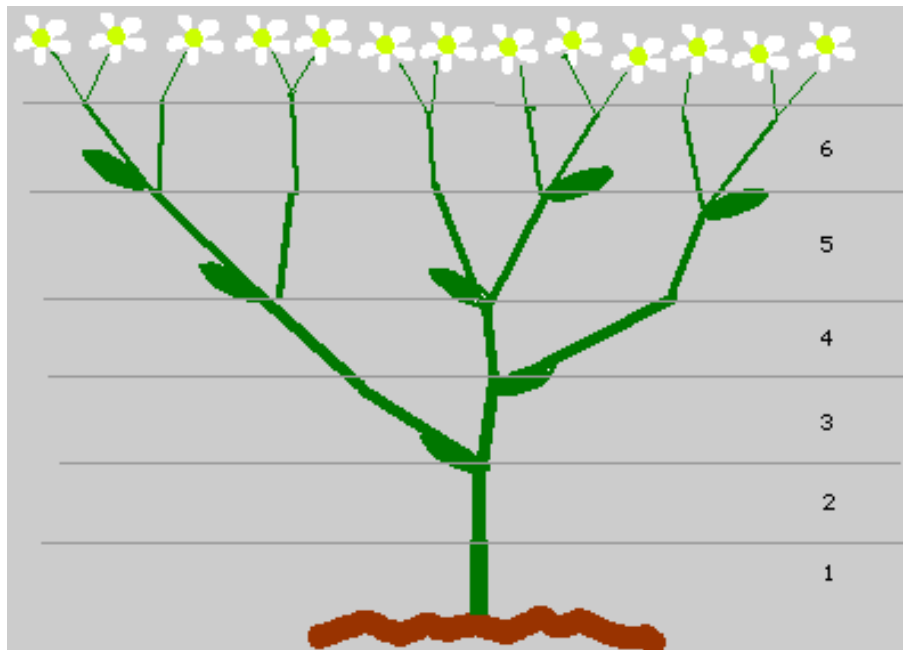
BOŽANSKA PROPORCIJA:

$$a/b = b/(a+b)$$

Fibonačijev niz: ($X_n = X_{n-1} + X_{n-2}$)

1, 1, 2, 3, 5, 8, 13, 21, 34, 55, 89, itd.

$$\phi' = 0,618$$



$$1:1 = 1$$

$$1:2 = 0,5$$

$$2:3 = 0,667$$

$$3:5 = 0,600$$

$$5:8 = 0,625$$

$$8:13 = 0,615$$

$$13:21 = 0,619$$

$$21:34 = 0,617$$

$$34:55 = 0,618$$

$$55:89 = 0,617$$

ZLATNI PRESEK

ISTORIJA INTERESOVANJA

Od mistike brojeva preko matematike do empirijskih studija

Vitruvius, 31-27 p.n.e.: De architectura libri decem

Pitagora, 200 n. e. O harmoniji sfera (u Diogen Laertije)

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Luca Pacioli di Borgo, 1509: De divina proportione



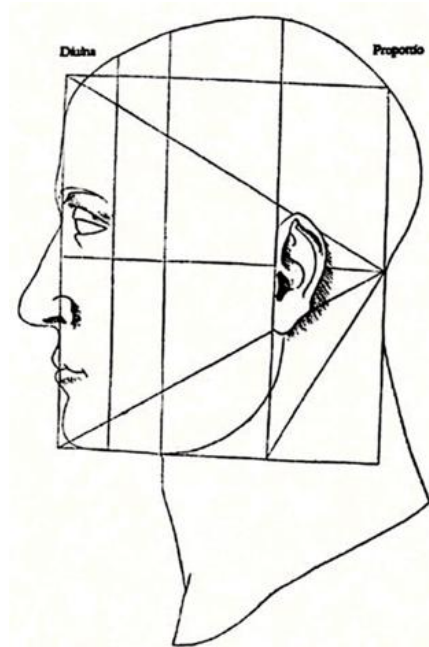
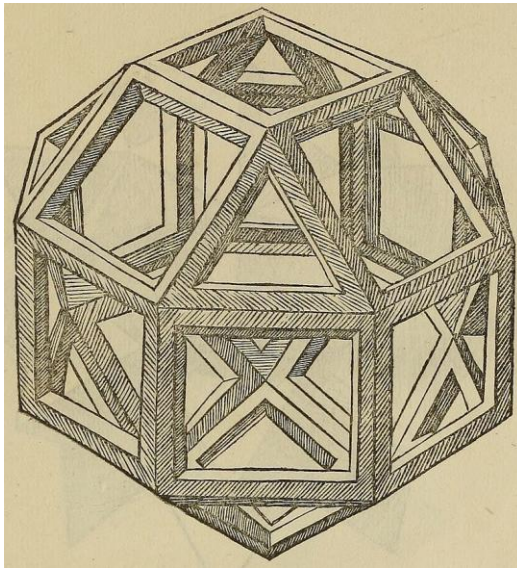
Jacopo de' Barbari

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Luca Pacioli di Borgo, 1509: De divina proportione

Martin Ohm, 1835: Goldene Schnitt

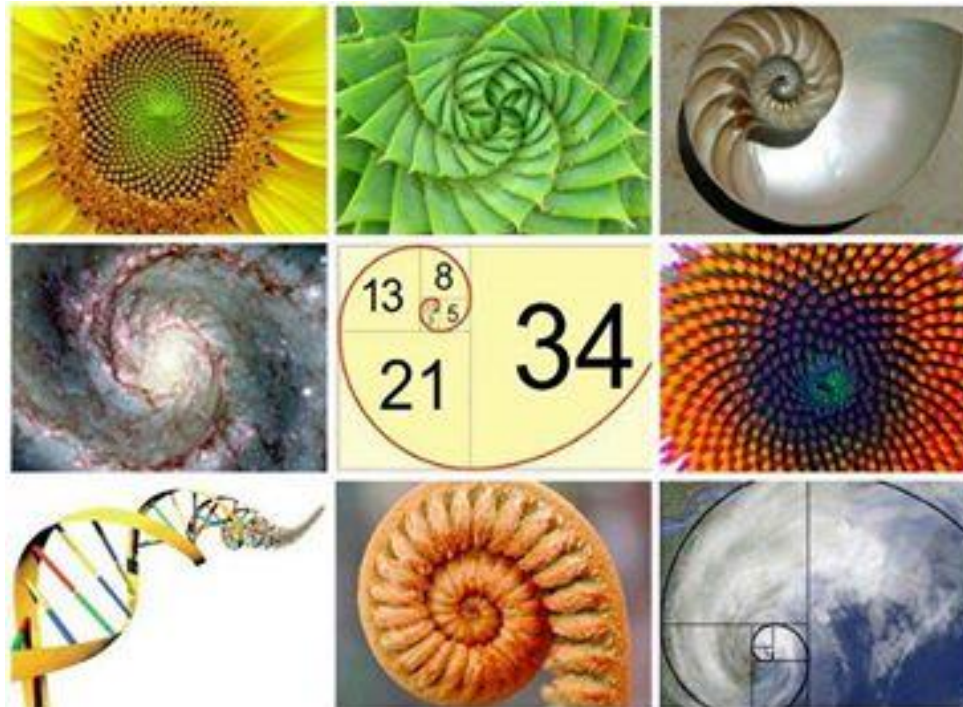
Adolf Zeising, 1854, 1855, 1884.

Gustav T. Fechner, 1876: Vorschule der Aesthetik

ZLATNI PRESEK

Primeri primene

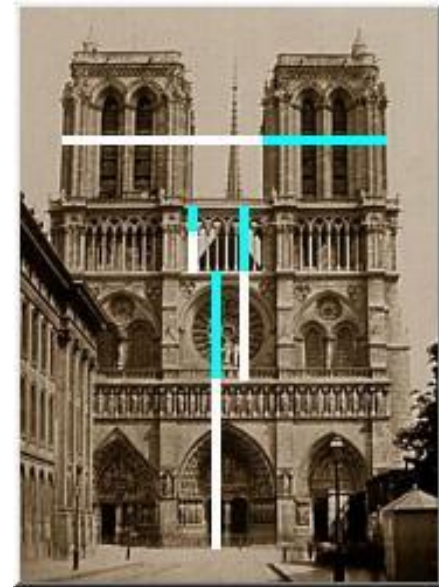
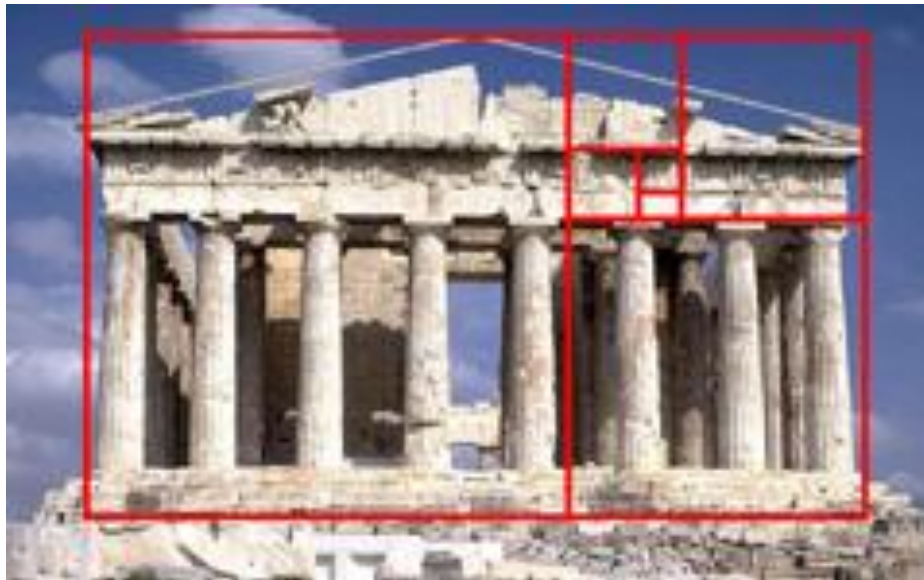
MORFOLOGIJA PRIRODNIH SISTEMA



ZLATNI PRESEK

Primeri primene

ARHITEKTURA



ZLATNI PRESEK

Primeri primene

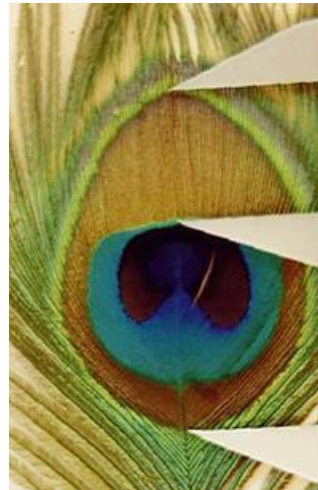
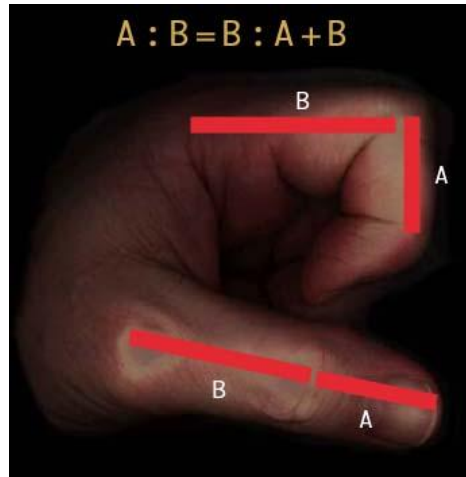
LIKOVNE UMETNOSTI



ZLATNI PRESEK

Kritike koncepta zlatnog preseka

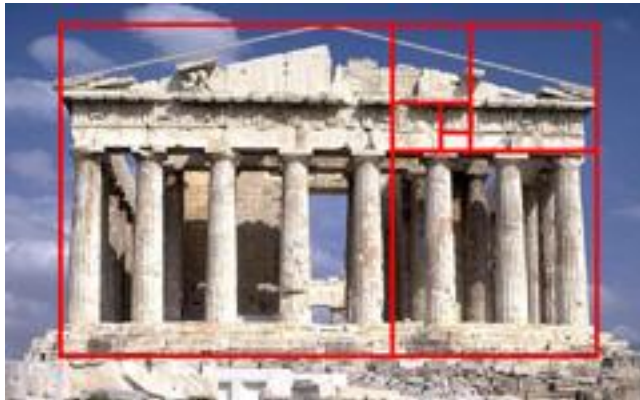
1. PROIZVOLJNOST POTPODELE



ZLATNI PRESEK

Kritike koncepta zlatnog preseka

1. PROIZVOLJNOST POTPODELE



ZLATNI PRESEK

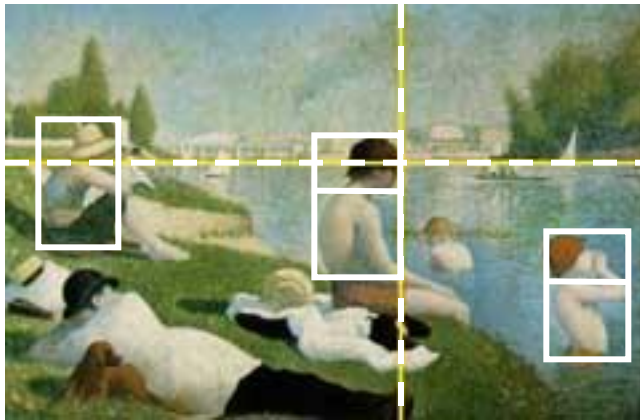


NEMA ZLATNOG PRESEKA

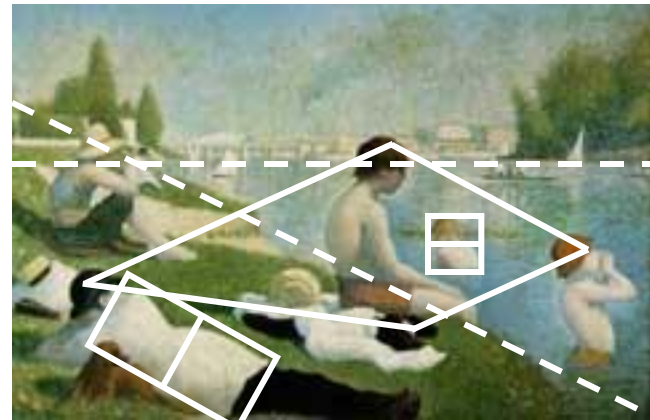
ZLATNI PRESEK

Kritike koncepta zlatnog preseka

1. PROIZVOLJNOST POTPODELE



ZLATNI PRESEK

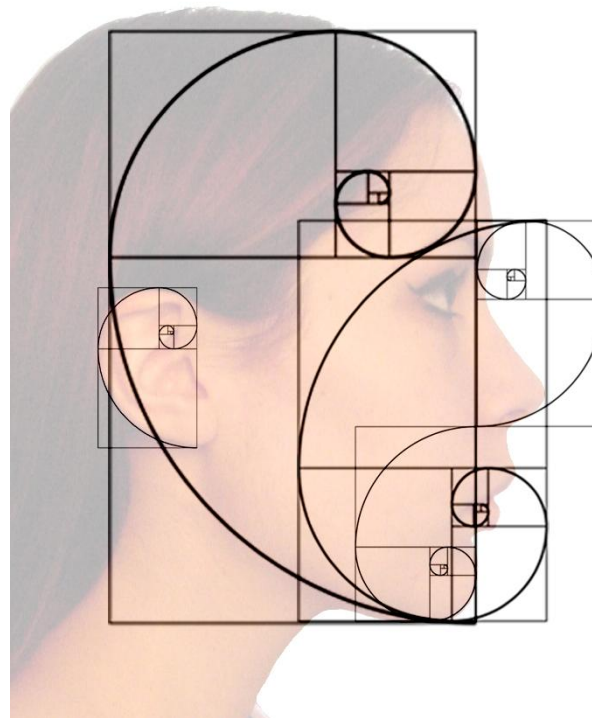


NEMA ZLATNOG PRESEKA

ZLATNI PRESEK

Kritike koncepta zlatnog preseka

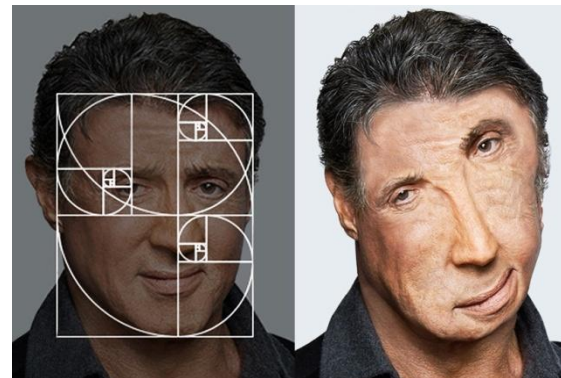
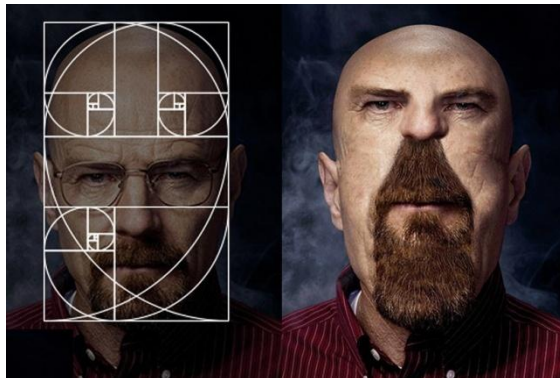
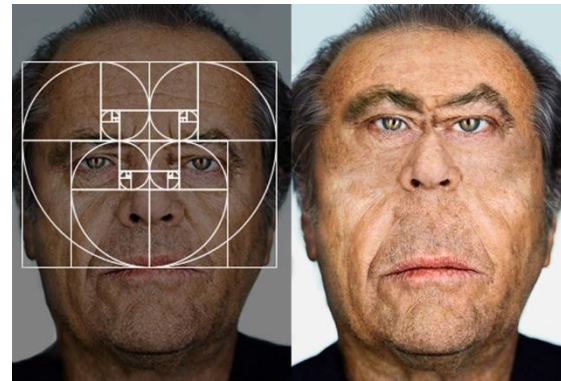
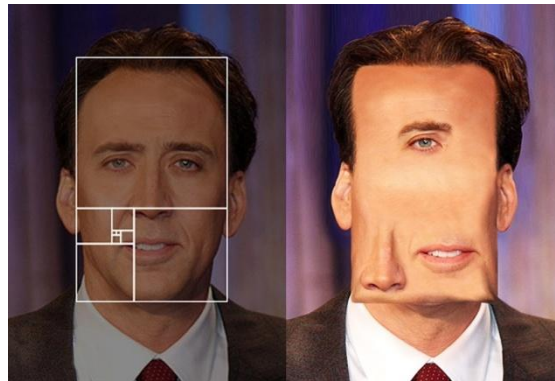
1. PROIZVOLJNOST POTPODELE



ZLATNI PRESEK

Kritike koncepta zlatnog preseka

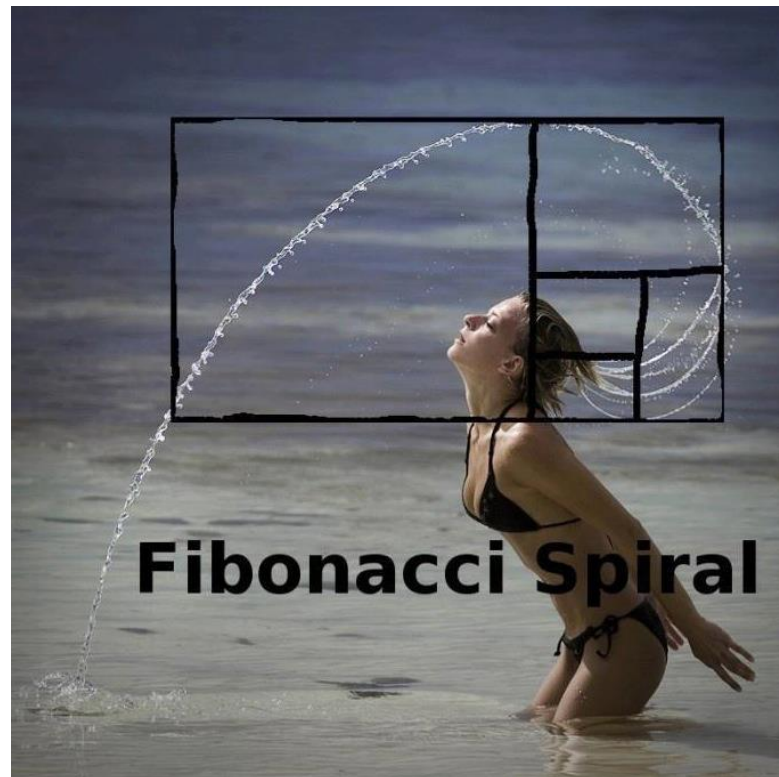
1. PROIZVOLJNOST POTPODELE



ZLATNI PRESEK

Kritike koncepta zlatnog preseka

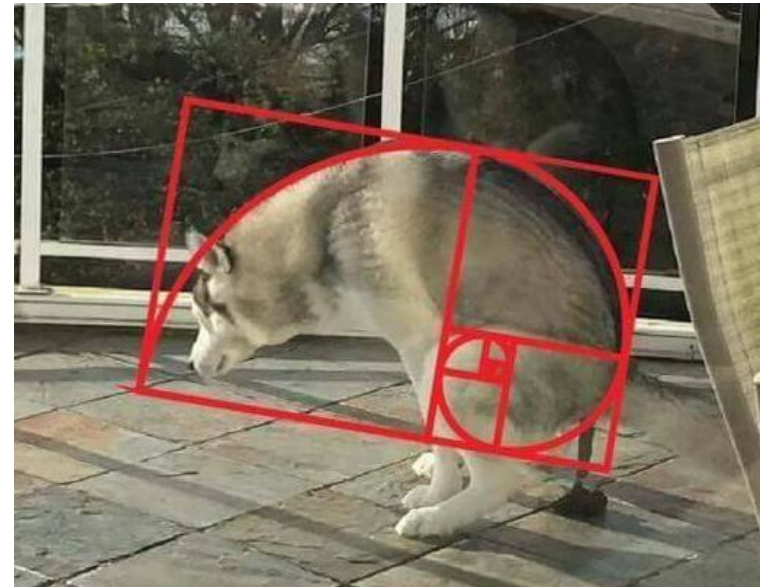
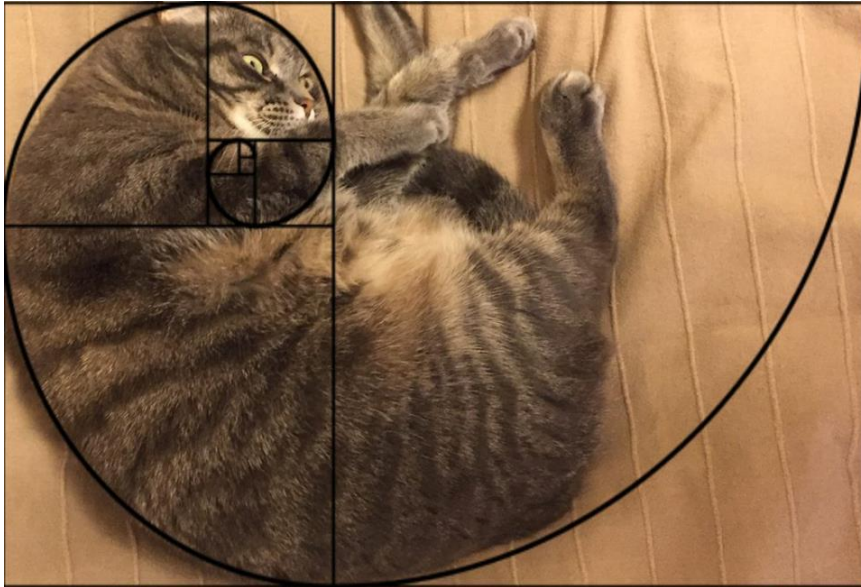
2. NEGATIVAN ESTETSKI EFEKAT



ZLATNI PRESEK

Kritike koncepta zlatnog preseka

2. NEGATIVAN ESTETSKI EFEKAT



ZLATNI PRESEK

Kritike koncepta zlatnog preseka

2. NEGATIVAN ESTETSKI EFEKAT

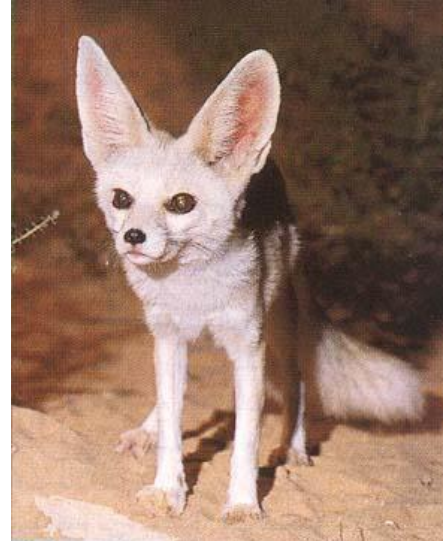


ZLATNI PRESEK

Kritike koncepta zlatnog preseka

3. NEUNIVERZALNOST

Morfologija prirodnih sistema: optimum za datu funkciju



ZLATNI PRESEK

Kritike koncepta zlatnog preseka

3. NEUNIVERZALNOST

Morfologija prirodnih sistema: optimum za datu funkciju

Peter Stevens, 1974: Patterns in nature

D'Arcy Thompson, 1961: On growth and form

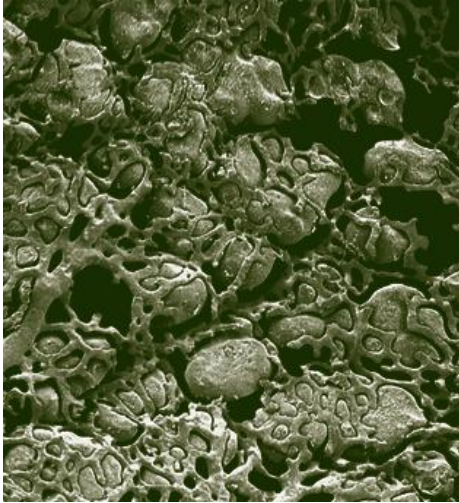
Philip Ball, 1999: The self-made tapestry: pattern formation in nature

ZLATNI PRESEK

Kritike koncepta zlatnog preseka

3. NEUNIVERZALNOST

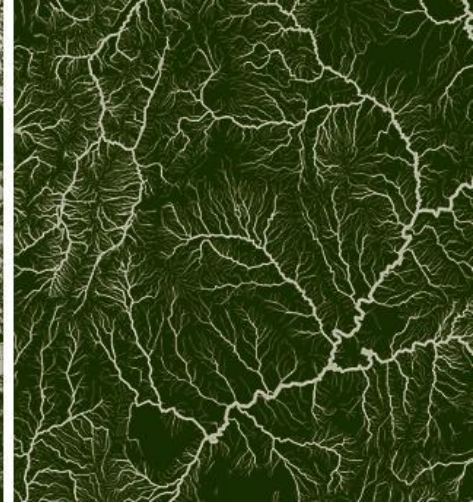
Morfologija prirodnih sistema: optimum za datu funkciju



KAPILARI



KROŠNJE



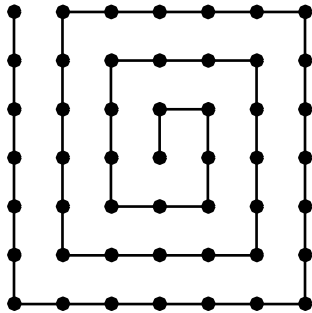
SLIV REKA

ZLATNI PRESEK

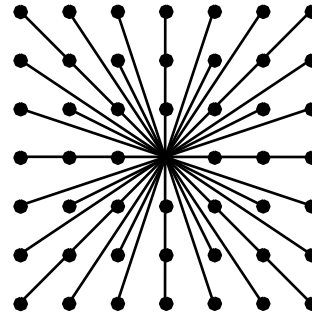
Kritike koncepta zlatnog preseka

3. NEUNIVERZALNOST

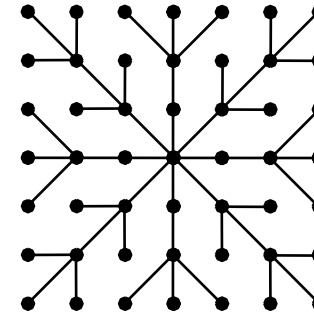
Morfologija prirodnih sistema: optimum za datu funkciju



SPIRALA



EKSPLOZIJA



GRANANJE

Materijal

Min

Max

Opt

Brzina

Min

Max

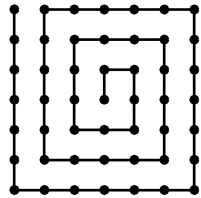
Opt

ZLATNI PRESEK

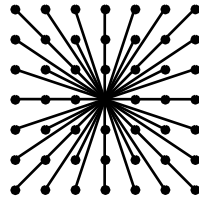
Kritike koncepta zlatnog preseka

3. NEUNIVERZALNOST

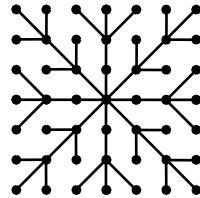
Morfologija prirodnih sistema: optimum za datu funkciju



LOBANJA



CORTEX



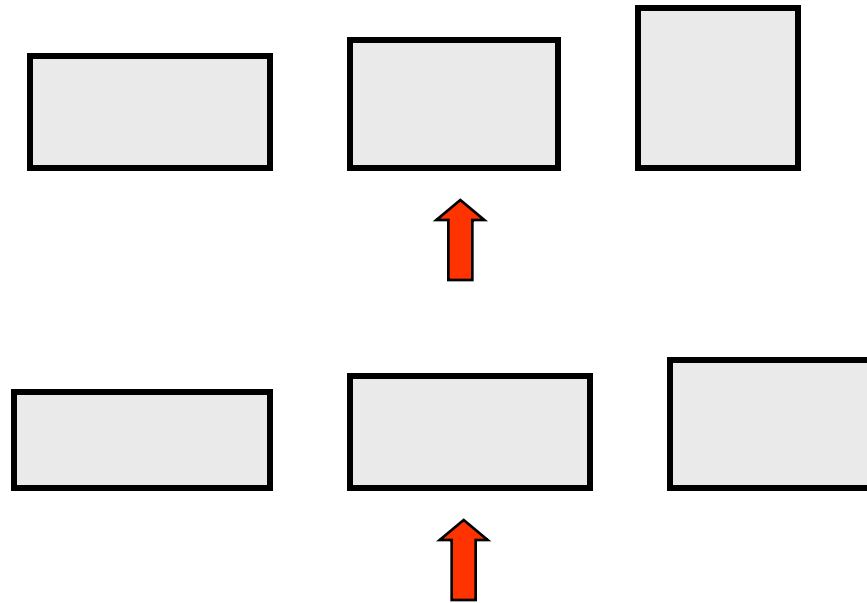
KRVOTOK



ZLATNI PRESEK

Kritike koncepta zlatnog preseka

4. NEDOVOLJNA EMPIRIJSKA POTVRDA



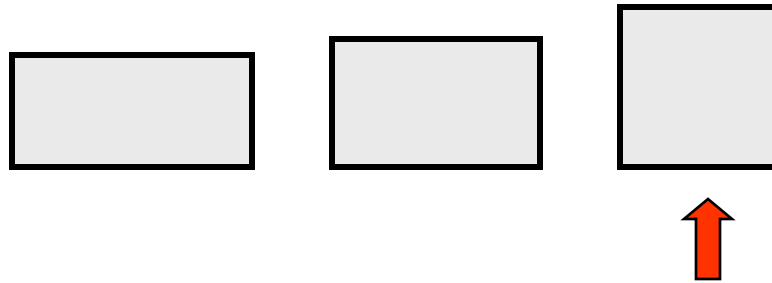
Schiffman, 1969

Preferencija proseka

ZLATNI PRESEK

Kritike koncepta zlatnog preseka

4. NEDOVOLJNA EMPIRIJSKA POTVRDA



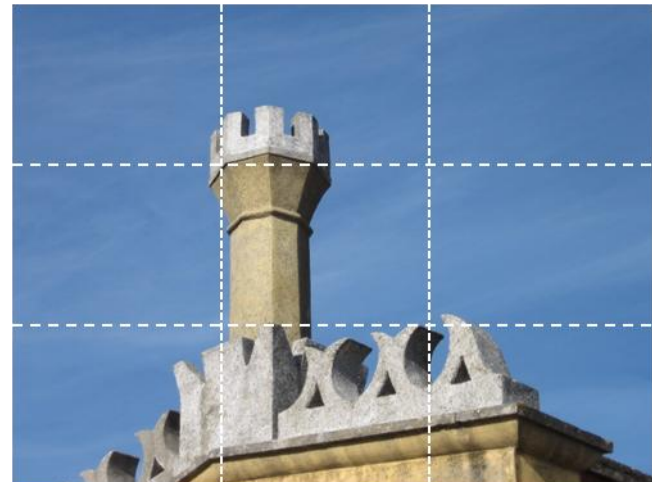
Preferencija simetrije

ZLATNI PRESEK

Kritike koncepta zlatnog preseka

5. SVODIVOST NA PRAVILO JEDNE TREĆINE?

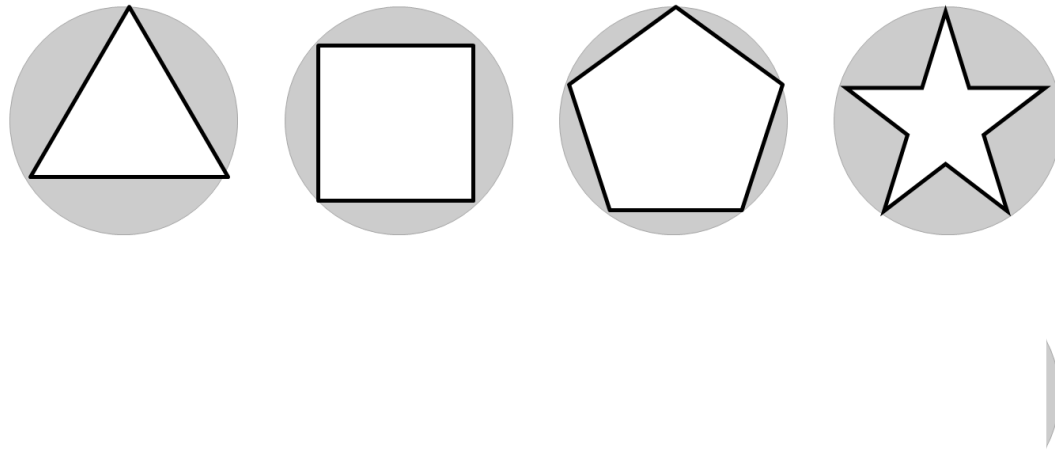
0,62 je približno 0,67



ZLATNI PRESEK

Kritike koncepta zlatnog preseka

6. KONFUNDACIJA SA KOMPAKTNOŠĆU



ZLATNI PRESEK

Kritike koncepta zlatnog preseka

6. KONFUNDACIJA SA KOMPAKTNOŠĆU



KLASIČNA EKSPERIMENTALNA ESTETIKA

Otvorena pitanja

1. Zlatni presek: samo matematički ili i estetski koncept?
2. Interakcija regularnosti i kompleksnosti:
ravnoteža višeg reda!
3. Preferencija z. p. = preferencija srednjeg intenziteta?

LIKOVNA KOMPOZICIJA



Pieter Bruegel – Mlađi

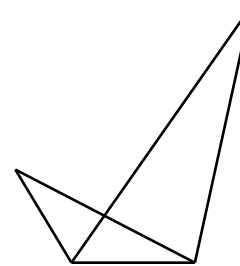
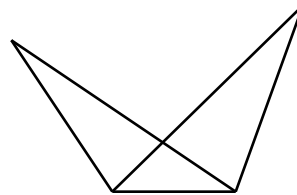
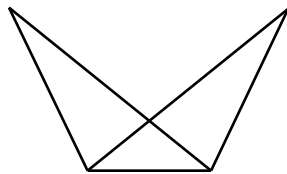
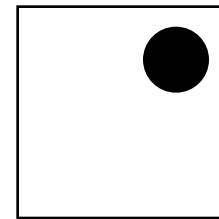
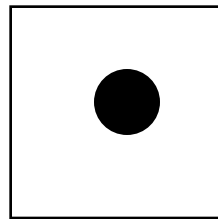
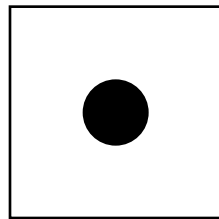


Pieter Bruegel - Stariji

LIKOVNA KOMPOZICIJA

R. Arnheim, 1968: Art and Visual Perception

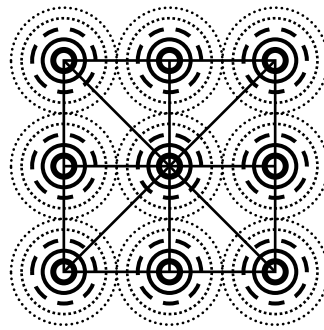
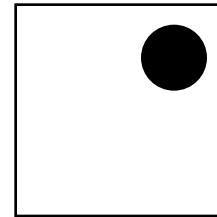
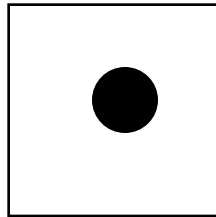
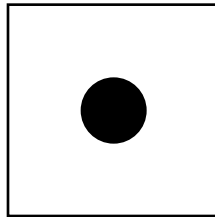
RAVNOTEŽA



LIKOVNA KOMPOZICIJA

R. Arnheim, 1968: Art and Visual Perception

RAVNOTEŽA



Ross, 1907:

Strukturalni skelet

LIKOVNA KOMPOZICIJA

R. Arnheim, 1968: Art and Visual Perception

RAVNOTEŽA

McManus, Stöver & Kim, 2011: Cropping

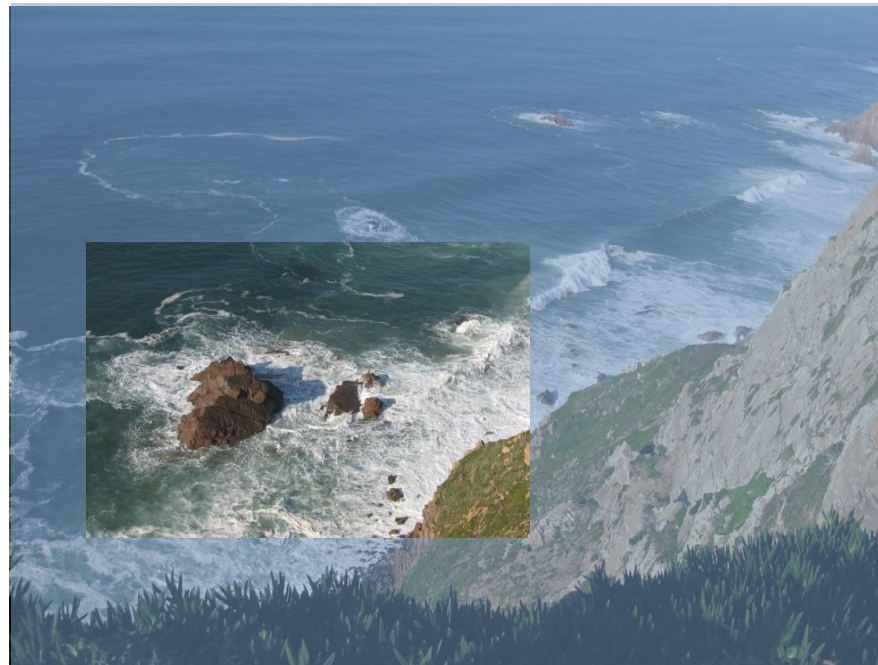


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R. Arnheim, 1968: Art and Visual Perception

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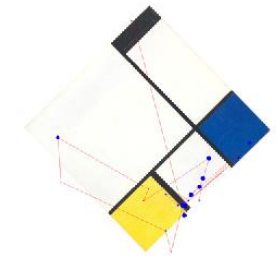
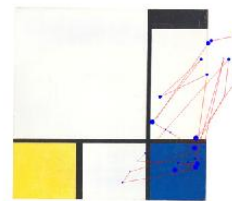
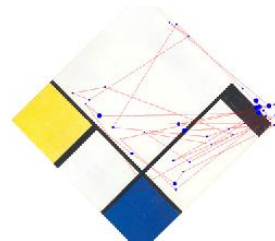
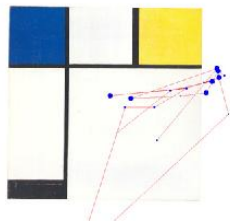
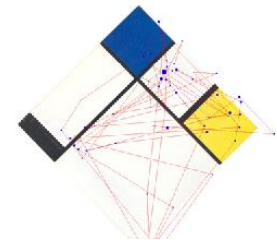
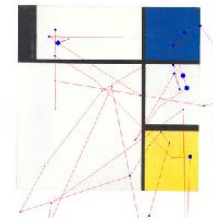
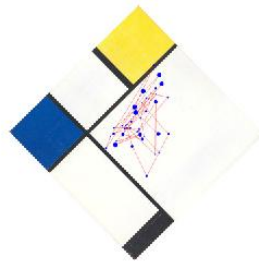
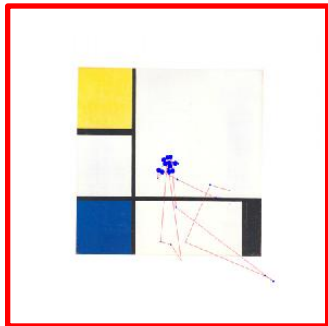


LIKOVNA KOMPOZICIJA

R. Arnheim, 1968: Art and Visual Perception

RAVNOTEŽA

Latto et al., 2000: Preferencija i pokreti očiju

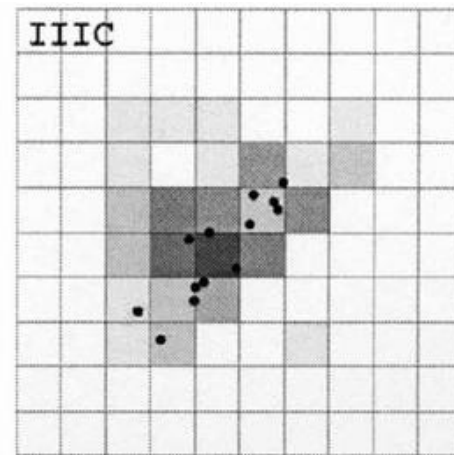
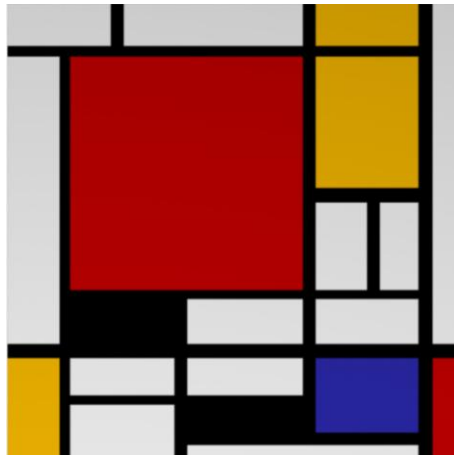


LIKOVNA KOMPOZICIJA

R. Arnheim, 1968: Art and Visual Perception

RAVNOTEŽA

*Locher et al., 2005: Opaženo **TEŽIŠTE***



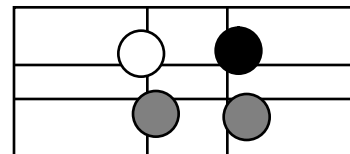
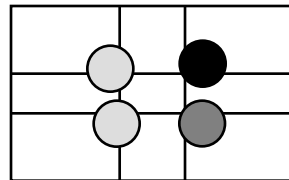
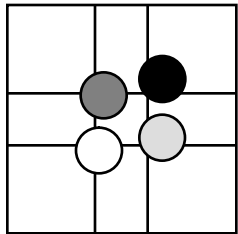
Mondrian: Kompozicija sa crvenim, plavim, žutim i crnim

LIKOVNA KOMPOZICIJA

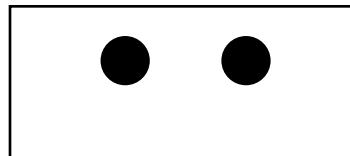
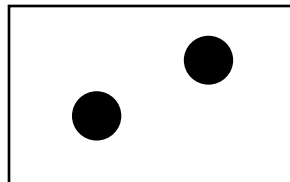
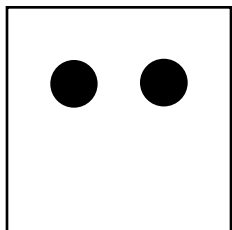
R. Arnheim, 1968: Art and Visual Perception

RAVNOTEŽA

Tošković i Marković, 2003: Preferentne pozicije



Jedan krug
(tamnije = frekventnije)



Dva kruga

LIKOVNA KOMPOZICIJA

R. Arnheim, 1968: Art and Visual Perception

RAVNOTEŽA

Zaključak o strukturnom skeletu:

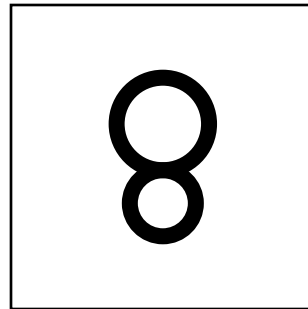
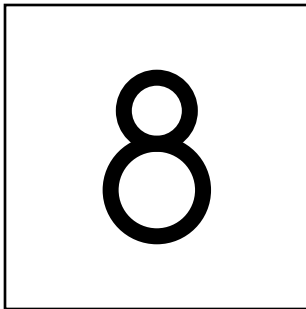
1. Tendencija ka centru i simetralama (*Palmer et al*)
2. Delimična tendencija: kropovani segmenti su bliži centru od nasumičnih isečaka (*Mc Manus et al*)
3. Nema tendencije ka centru (*Tošković i Marković*)

LIKOVNA KOMPOZICIJA

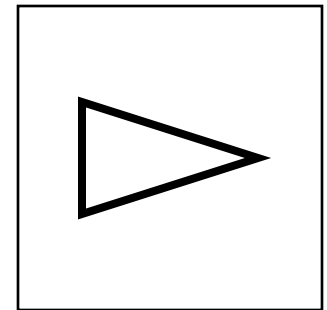
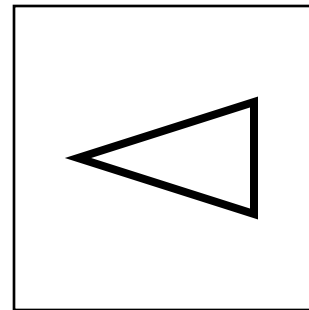
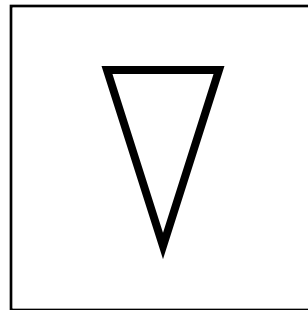
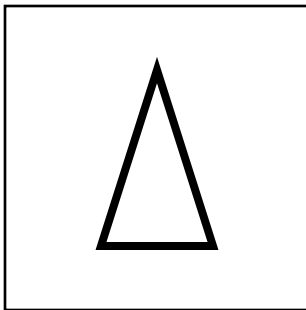
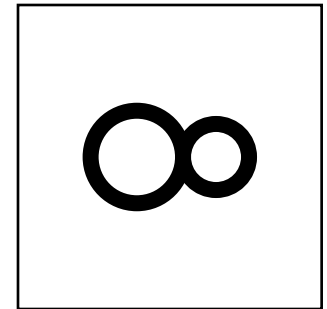
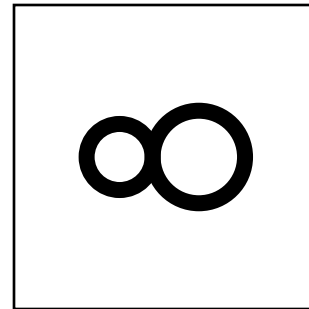
R. Arnheim, 1968: Art and Visual Perception

RAVNOTEŽA

Gore-Dole



Levo-Desno

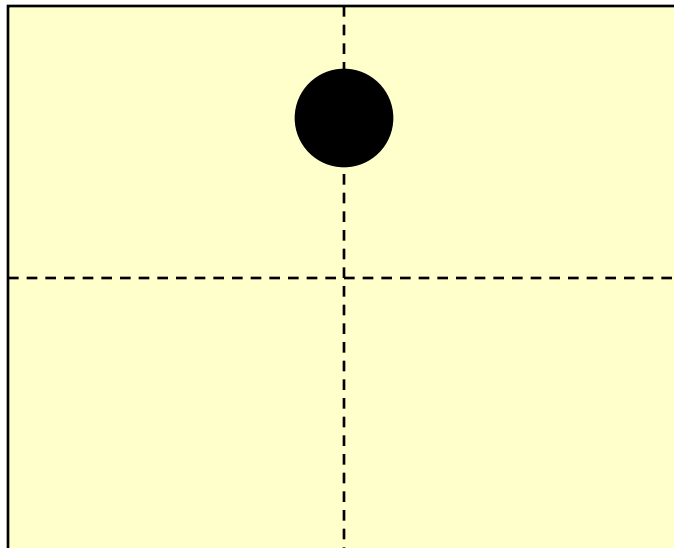


LIKOVNA KOMPOZICIJA

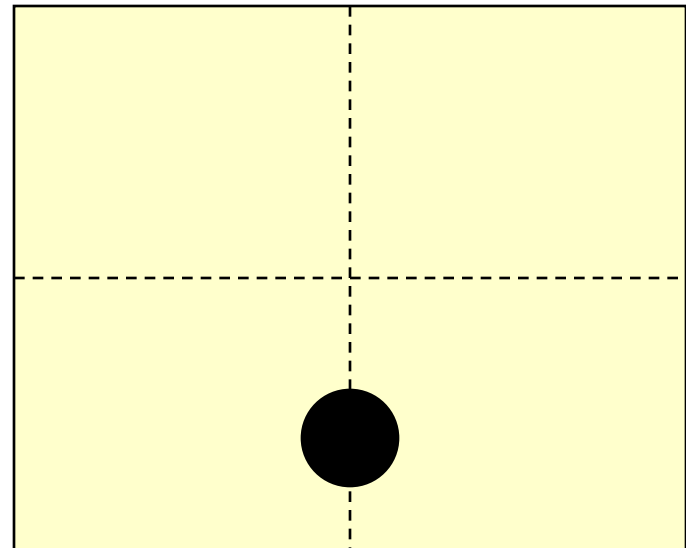
R. Arnheim, 1968: Art and Visual Perception

TEŽINA: gore-dole

Veća “potencijalna energija”



Stabilno stanje (ravnoteža)

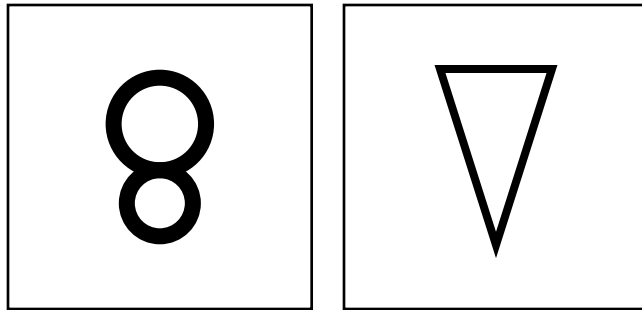


LIKOVNA KOMPOZICIJA

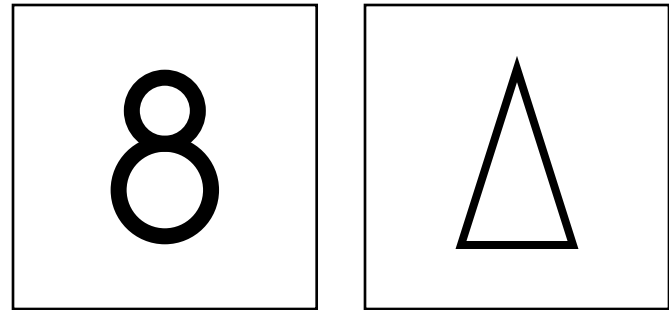
R. Arnheim, 1968: Art and Visual Perception

TEŽINA: gore-dole

Veća “potencijalna energija”



Stabilno stanje (ravnoteža)

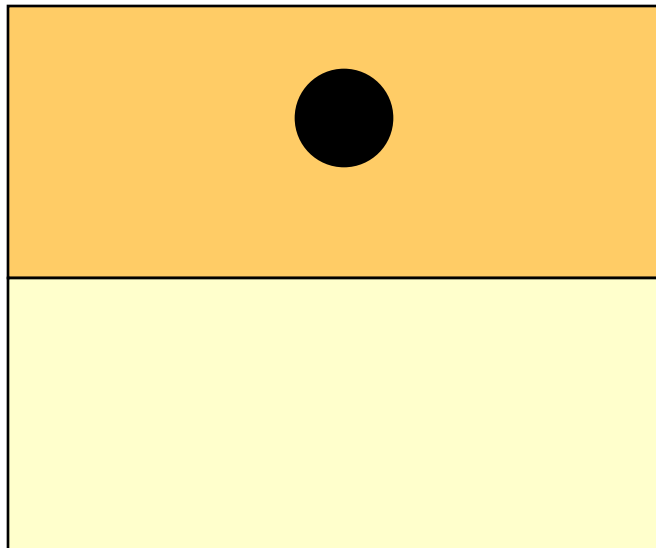


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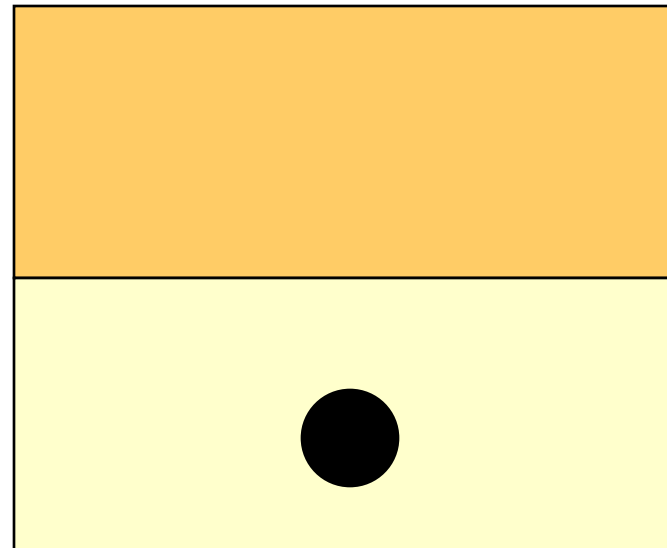
R. Arnheim, 1968: Art and Visual Perception

TEŽINA: gore-dole

Veća "potencijalna energija"



Stabilno stanje (ravnoteža)

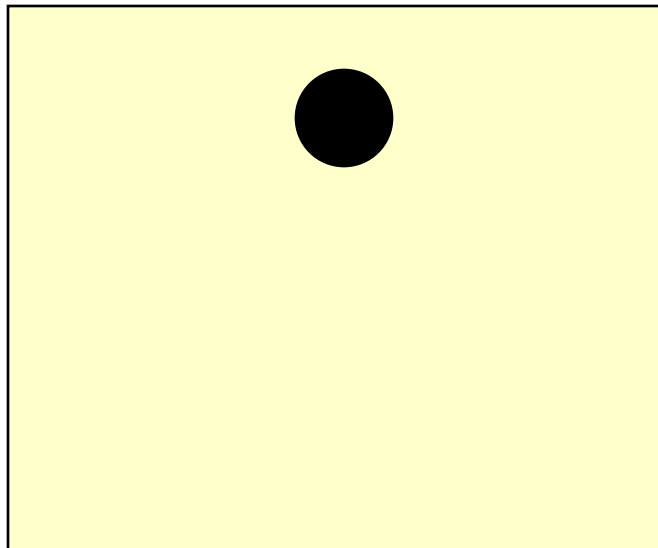


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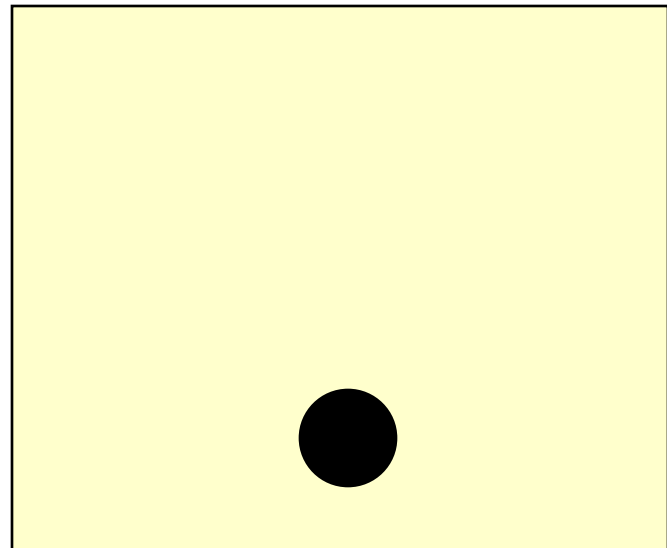
R. Arnheim, 1968: Art and Visual Perception

TEŽINA: gore-dole

Veća “potencijalna energija”



Stabilno stanje (ravnoteža)



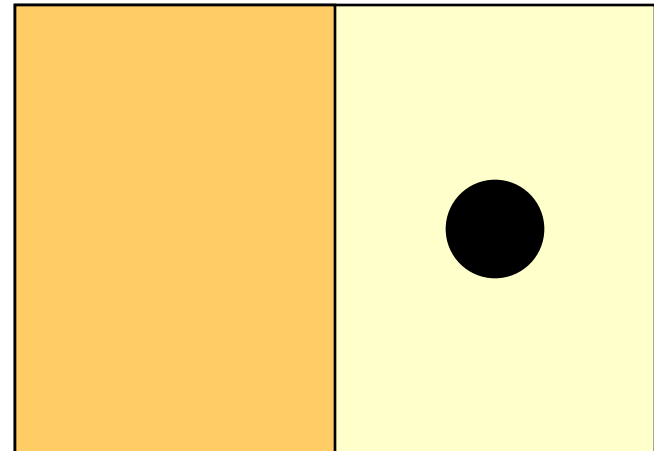
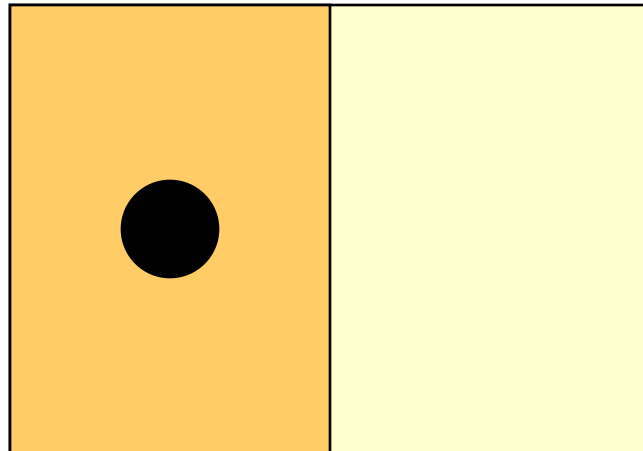
LIKOVNA KOMPOZICIJA

R. Arnheim, 1968: Art and Visual Perception

TEŽINA: levo-desno

Gaffron (1950)

Vizuelna dominacija desne hemisfere => Veća težina levog dela viz. polja =>
Kompenzacija fokusom na desno



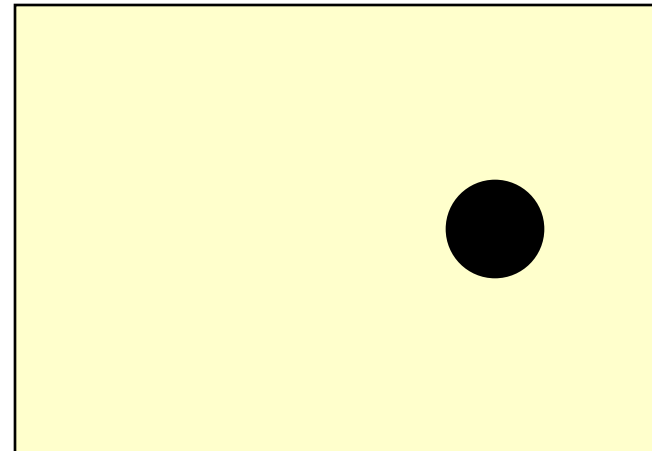
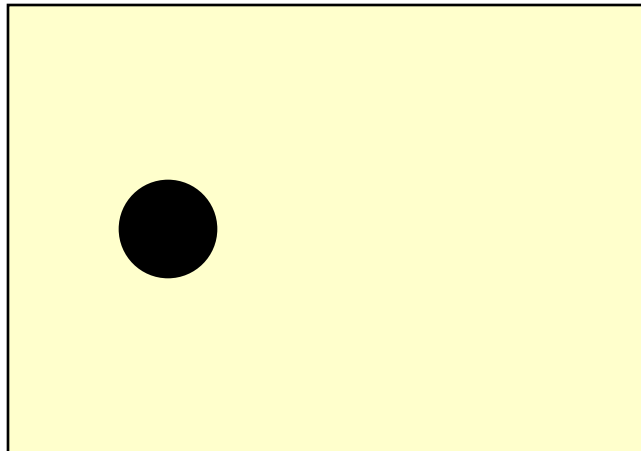
LIKOVNA KOMPOZICIJA

R. Arnheim, 1968: Art and Visual Perception

TEŽINA: levo-desno

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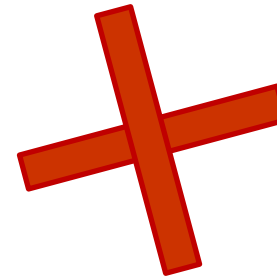
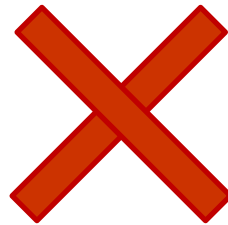
LIKOVNA KOMPOZICIJA

R. Arnheim, 1968: Art and Visual Perception

IMPLICITNA DINAMIKA



STATIČNO

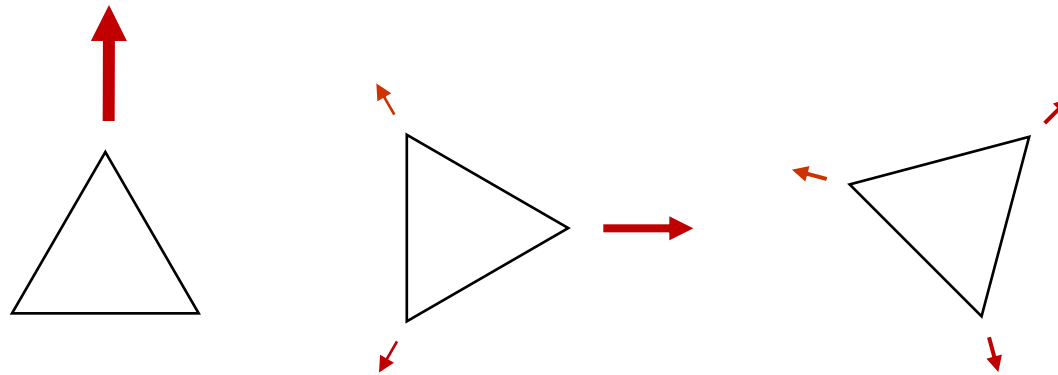


DINAMIČNO

LIKOVNA KOMPOZICIJA

R. Arnheim, 1968: Art and Visual Perception

SMER IMPLICITNOG KRETANJA



Marković, 1994:

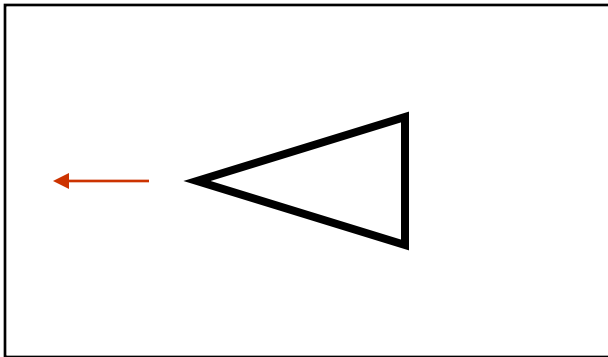
“procena nestabilnosti = nestabilnost procene”

LIKOVNA KOMPOZICIJA

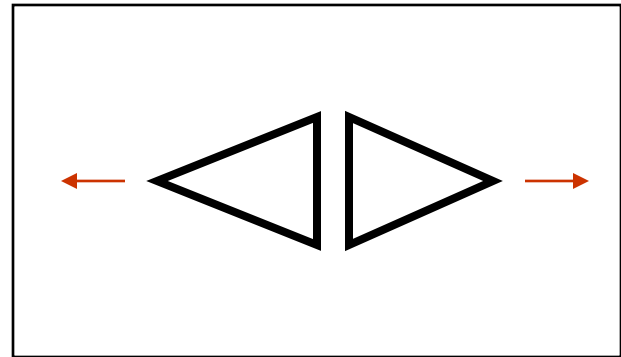
R. Arnheim, 1968: Art and Visual Perception

SMER IMPLICITNOG KRETANJA

Implicitno kretanje ulevo



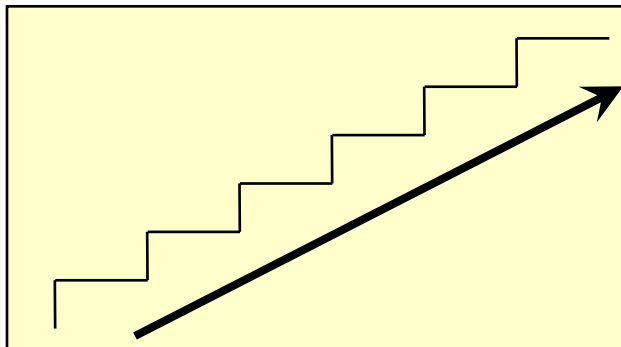
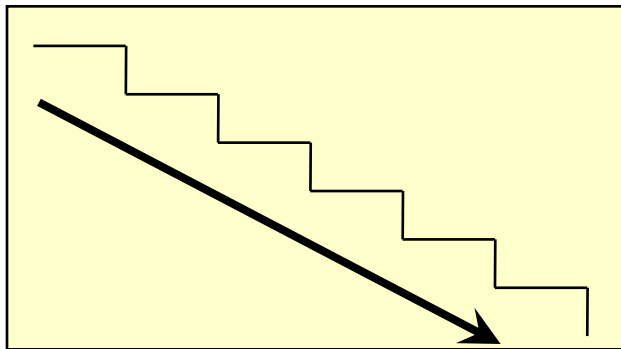
Balans vektora (ravnoteža)



LIKOVNA KOMPOZICIJA

R. Arnheim, 1968: Art and Visual Perception

SMER IMPLICITNOG KRETANJA



Pieter Bruegel - Stariji



Giotto



Giotto



Vermeer



Vermeer



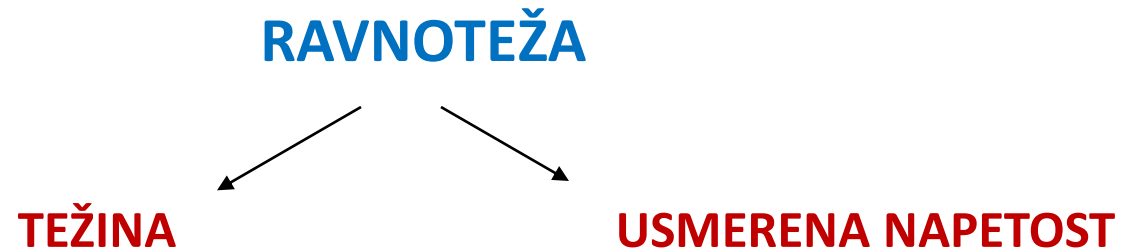
Frederick J. Waugh



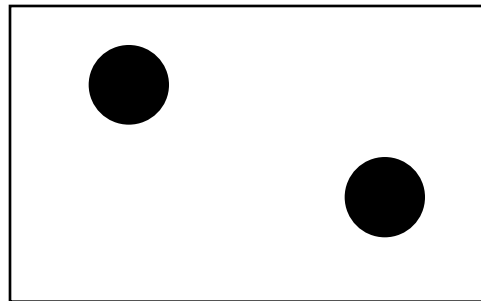
Frederick J. Waugh

LIKOVNA KOMPOZICIJA

R. Arnheim, 1968: Art and Visual Perception



Kompenzacija neravnoteže redistribucijom težine i smera



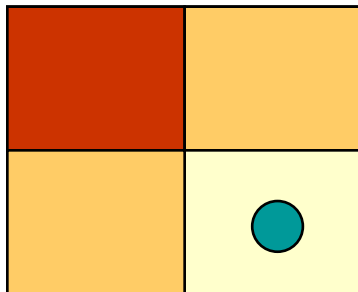
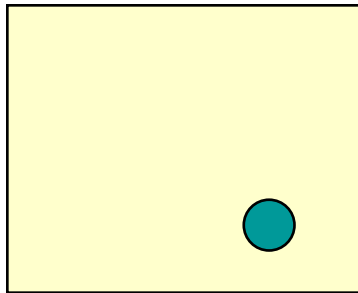
LIKOVNA KOMPOZICIJA

R. Arnheim, 1968: Art and Visual Perception

RAVNOTEŽA

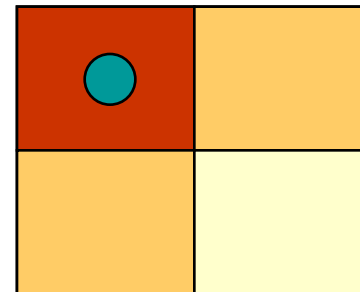
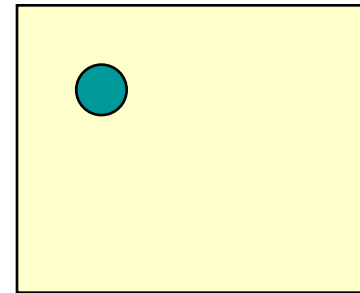
Veća ravnoteža:

manja težina, manja napetost



Manja ravnoteža:

veća težina, veća napetost



LIKOVNA KOMPOZICIJA

R. Arnheim, 1968: Art and Visual Perception

RAVNOTEŽA

Težina, dinamika i **ZNAČENJE**

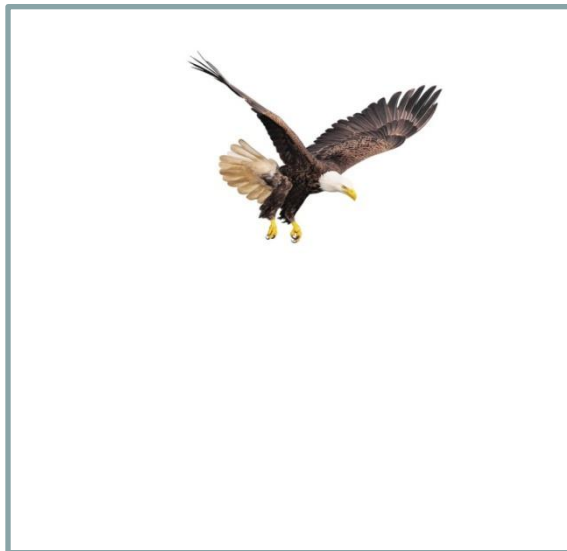


LIKOVNA KOMPOZICIJA

R. Arnheim, 1968: Art and Visual Perception

RAVNOTEŽA

Težina, dinamika i **ZNAČENJE**



Sammartino & Palmer, 2012.

LIKOVNA KOMPOZICIJA

R. Arnheim, 1968: Art and Visual Perception



Fenomenologija perceptivnog iskustva

Sklop "sila" u perceptivnom polju

Složeni strukturni skeleti slike

Picasso: Gertrude Stein

ZAKLJUČAK

1. Preferencija zlatnog preseka: nekonzistentni nalazi
2. Moguće: preferencija umerenog intenziteta ili kompromis nivelacije i ekstremizacije
3. Kompoziciona ravnoteža: kompromis težine i dinamike