

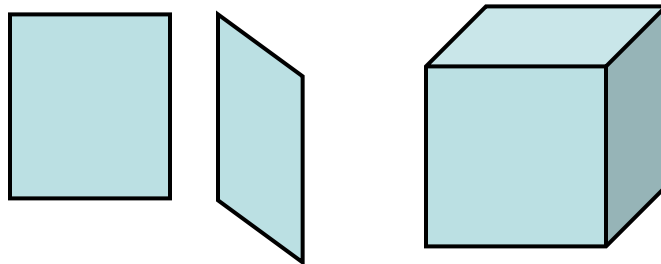
Univerzitet u Beogradu  
Filozofski fakultet  
Odeljenje za psihologiju

Slobodan Marković

## **VIZUELNA PERCEPCIJA**

Drugo predavanje: OPAŽANJE OBJEKATA I SCENA (exp)

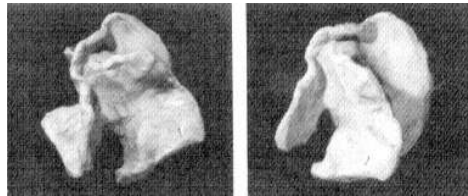
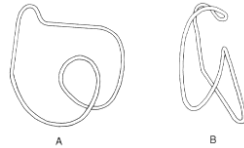
### KONSTANTNOST



## KONSTANTNOST

*Rock & Di Vita, 1987; Rock, Di Vita & Barbeito, 1981*

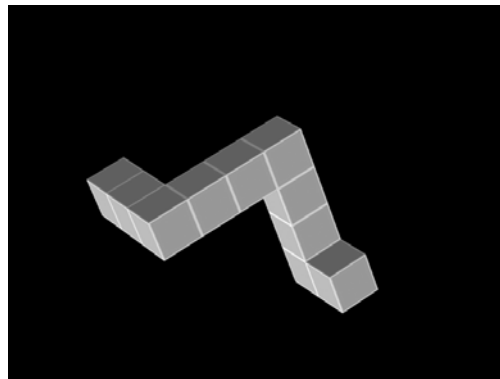
Konstantnost kompleksnih nepoznatih objekata



## KONSTANTNOST

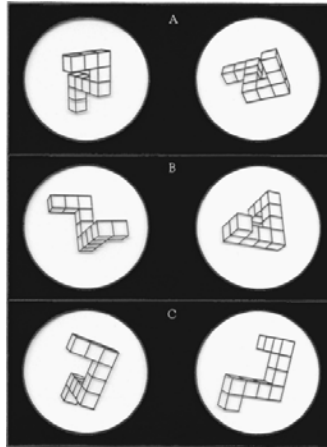
*Shepard & Metzler, 1971:*

Mentalna rotacija složenih formi



# KONSTANTNOST

*Shepard & Metzler, 1971.*

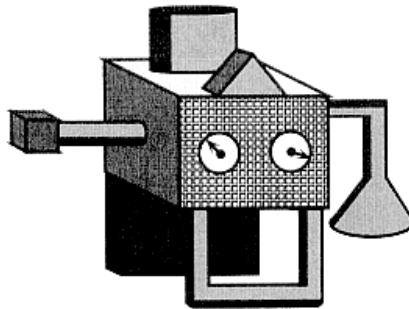


Rotacija u ravni

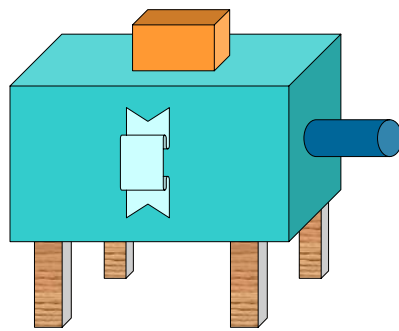
Rotacija u dubini

Refleksija +  
rotacija u dubini

# CELINA - DELOVI

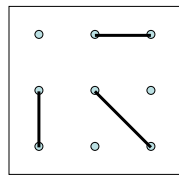
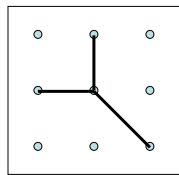
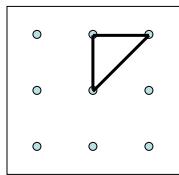
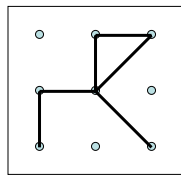
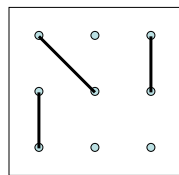
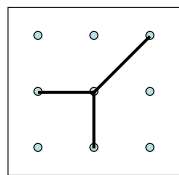
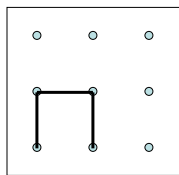
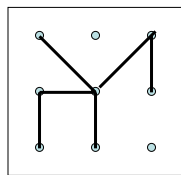


# CELINA - DELOVI



# CELINA - DELOVI

*Palmer, 1977: Same-figure stimuli*



CELINA

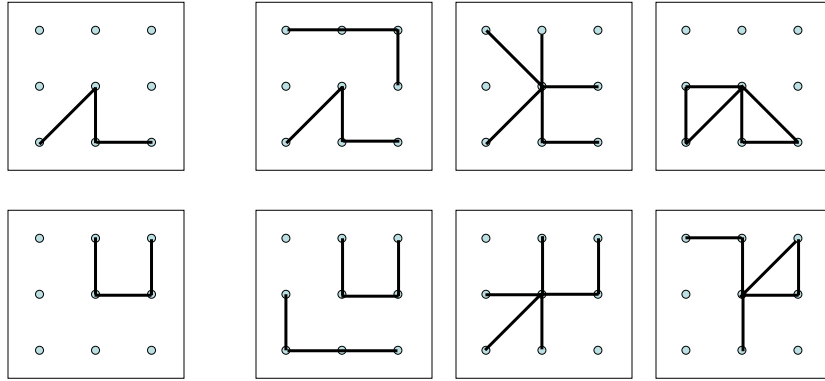
**Dobra forma**

Umereno  
dobra forma

**Loša forma**

# CELINA - DELOVI

*Palmer, 1977: Same-parts stimuli*



DEO

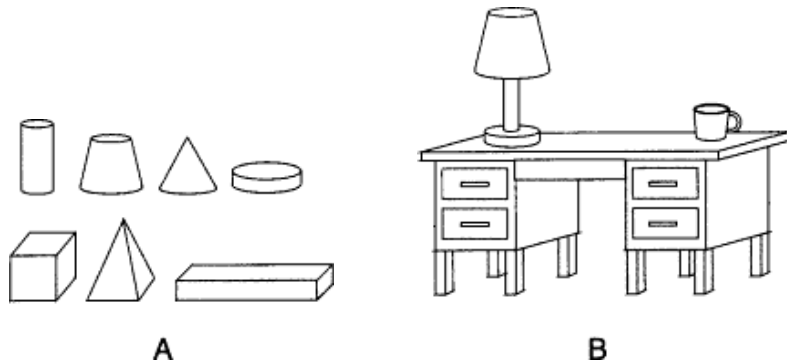
**Dobra forma**

Umereno  
dobra forma

**Loša forma**

# CELINA - DELOVI

*David Marr, 1982: Shape primitives*

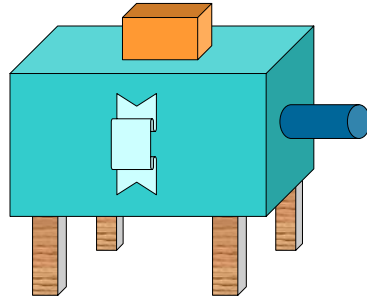


A

B

## CELINA - DELOVI

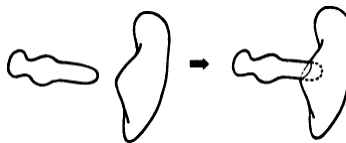
*David Marr, 1982: Shape primitives*



## CELINA - DELOVI

*Donald Hoffman & Whitman Richards, 1984:*

Boundary rules

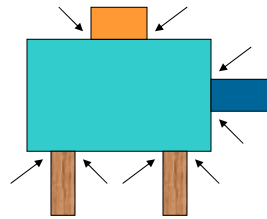
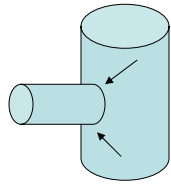


Transversality regularity

# CELINA - DELOVI

*Donald Hoffman & Whitman Richards, 1984:*

Boundary rules



Transversality regularity

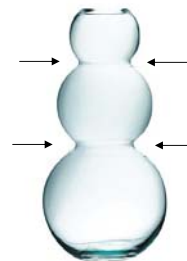
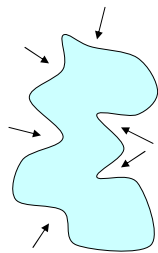


**Concave discontinuity rule**

# CELINA - DELOVI

*Donald Hoffman & Whitman Richards, 1984:*

Boundary rules



Smooth surfaces

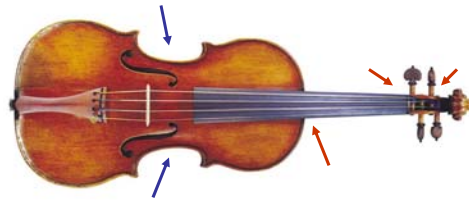


**Deep (maximal) concavity rule**

# CELINA - DELOVI

Donald Hoffman & Whitman Richards, 1984:

Boundary rules

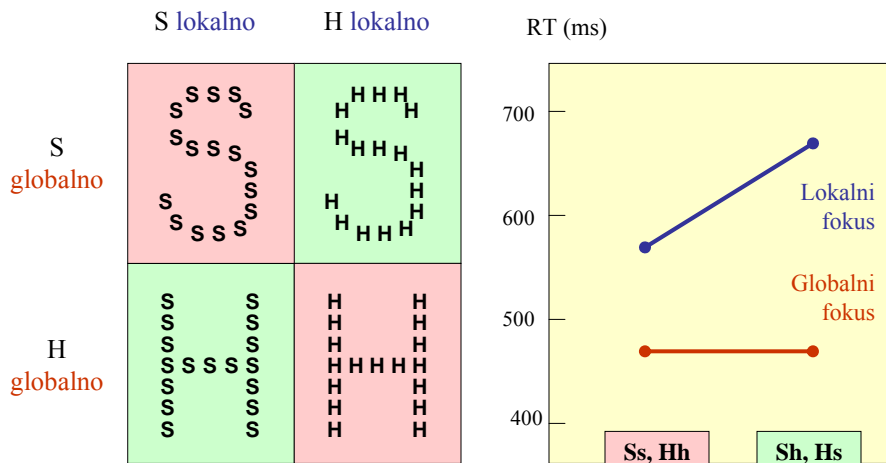


Deep (maximal) concavity rule

Concave discontinuity rule

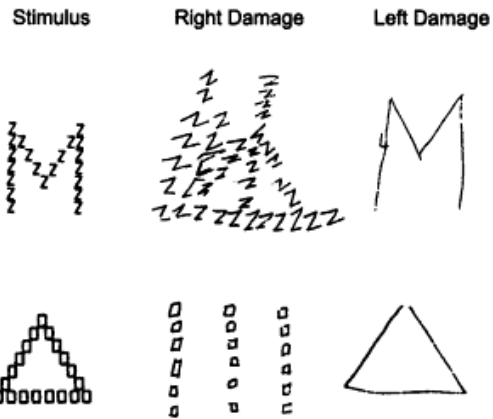
# GLOBALNO - LOKALNO

David Navon, 1977





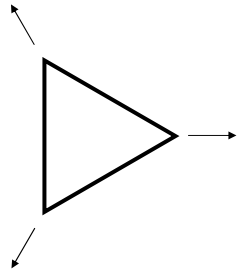
# GLOBALNO - LOKALNO



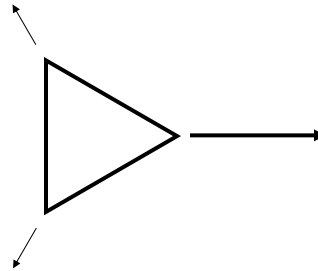
# GLOBALNO - LOKALNO

*Palmer, 1980, 1989:*

Configural orientation effects

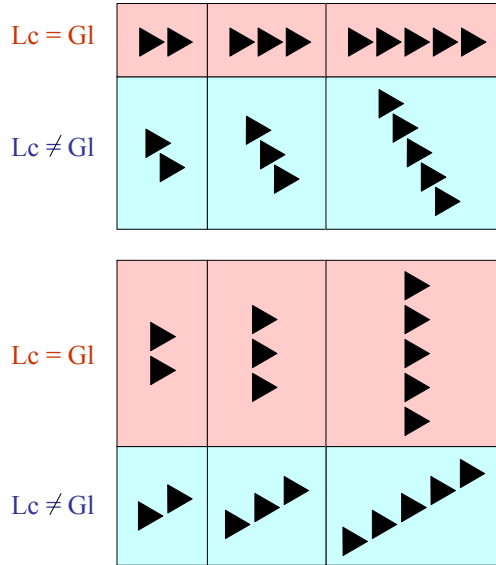


*Attneave 1968.*

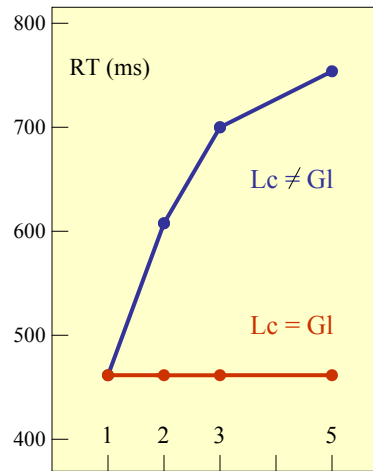


*Marković, 1994.*

## GLOBALNO - LOKALNO

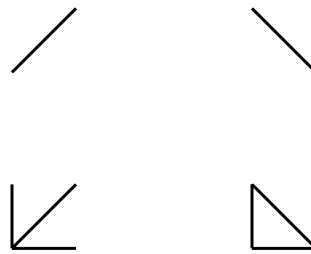


*Palmer, 1980, 1989:*  
Configural orientation effects



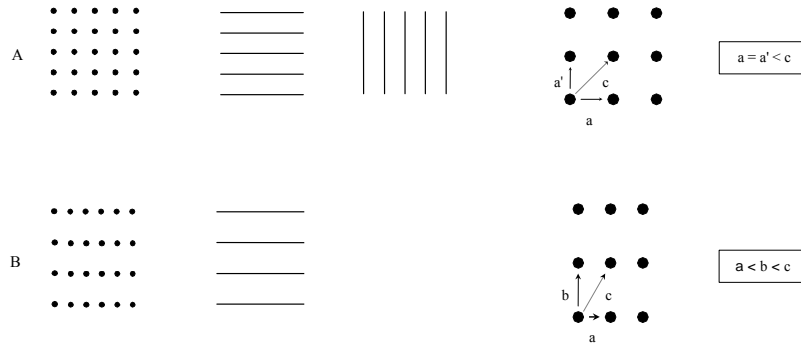
## GLOBALNO - LOKALNO

*Pomerantz, Sager & Stover, 1977:*  
Configural superiority effect



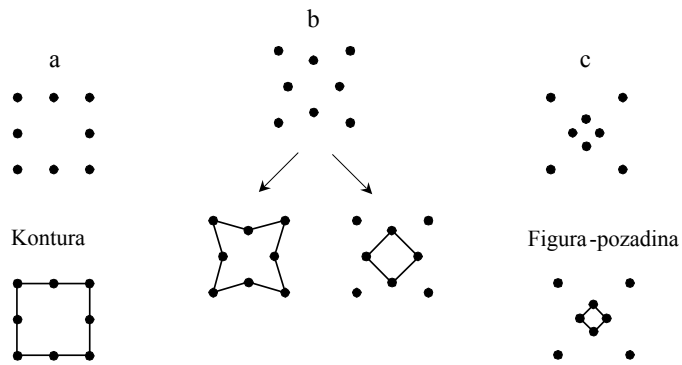
# PERCEPTIVNO GRUPISANJE

*Kubovy & Wagemans, 1995:*  
Orientational multistability



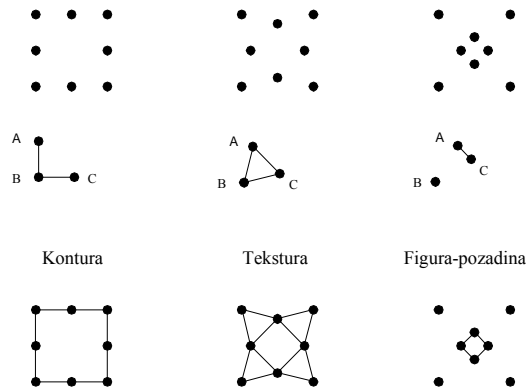
# PERCEPTIVNO GRUPISANJE

*Marković, 1999.*



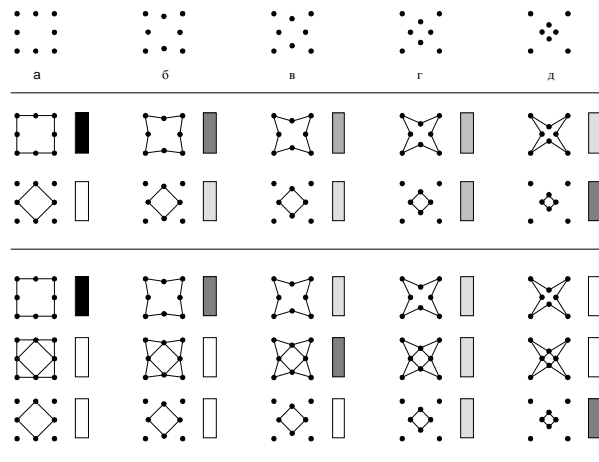
# PERCEPTIVNO GRUPISANJE

*Marković, 1999.*



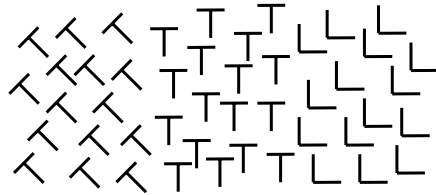
# PERCEPTIVNO GRUPISANJE

*Marković, 1999.*



## PERCEPTIVNO GRUPISANJE

*Jacob Beck, 1966: Texture segmentation*



## OBJEKTIVNE MERE DOBRE FORME

*Atneave, 1954, 1955: Teorija informacije*

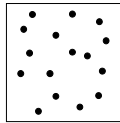
Informaciona kompleksnost na osnovu N  
(broj stranica poligona)



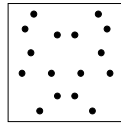
# OBJEKTIVNE MERE DOBRE FORME

*Atneave, 1954, 1955: Teorija informacije*

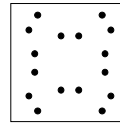
Informaciona kompleksnost na osnovu simetrije



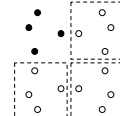
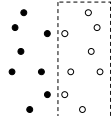
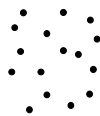
A



B



C



$$p = 1/16 = 0,0625$$

$$h = -\log_2 0,0625 = 4 \text{ bita}$$

$$p = 1/8 = 0,125$$

$$h = -\log_2 0,125 = 3 \text{ bita}$$

$$p = 1/4 = 0,250$$

$$h = -\log_2 0,250 = 2 \text{ bita}$$

# OBJEKTIVNE MERE DOBRE FORME

*Garner, 1962, 1974; Garner & Clement, 1963:*

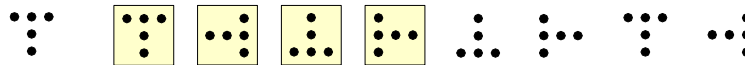
Teorija informacije: Setovi RR ekvivalenata

E=1  
h=0 bita



A

E=4  
h=2 bita



B

E=8  
h=3 bita



C

## OBJEKTIVNE MERE DOBRE FORME

*Leeuwenberg, 1971, 1978; Buffart, Restle i dr.:*

Structural Information Load (SIL): br. pravila + br. elemenata

● ● ● ● ● ● ● ●	8a	SIL = 2
● ● ● ● ○ ○ ○ ○	4a4b	SIL = 4
● ○ ● ○ ● ○ ● ○	4x(ab)	SIL = 4
● ○ ○ ● ● ○ ○ ●	4*ab	SIL = 4
● ○ ● ● ○ ○ ○ ●	ab, 2a2b, ba	SIL = 8
	a, *2ba, 2b, a	SIL = 8