




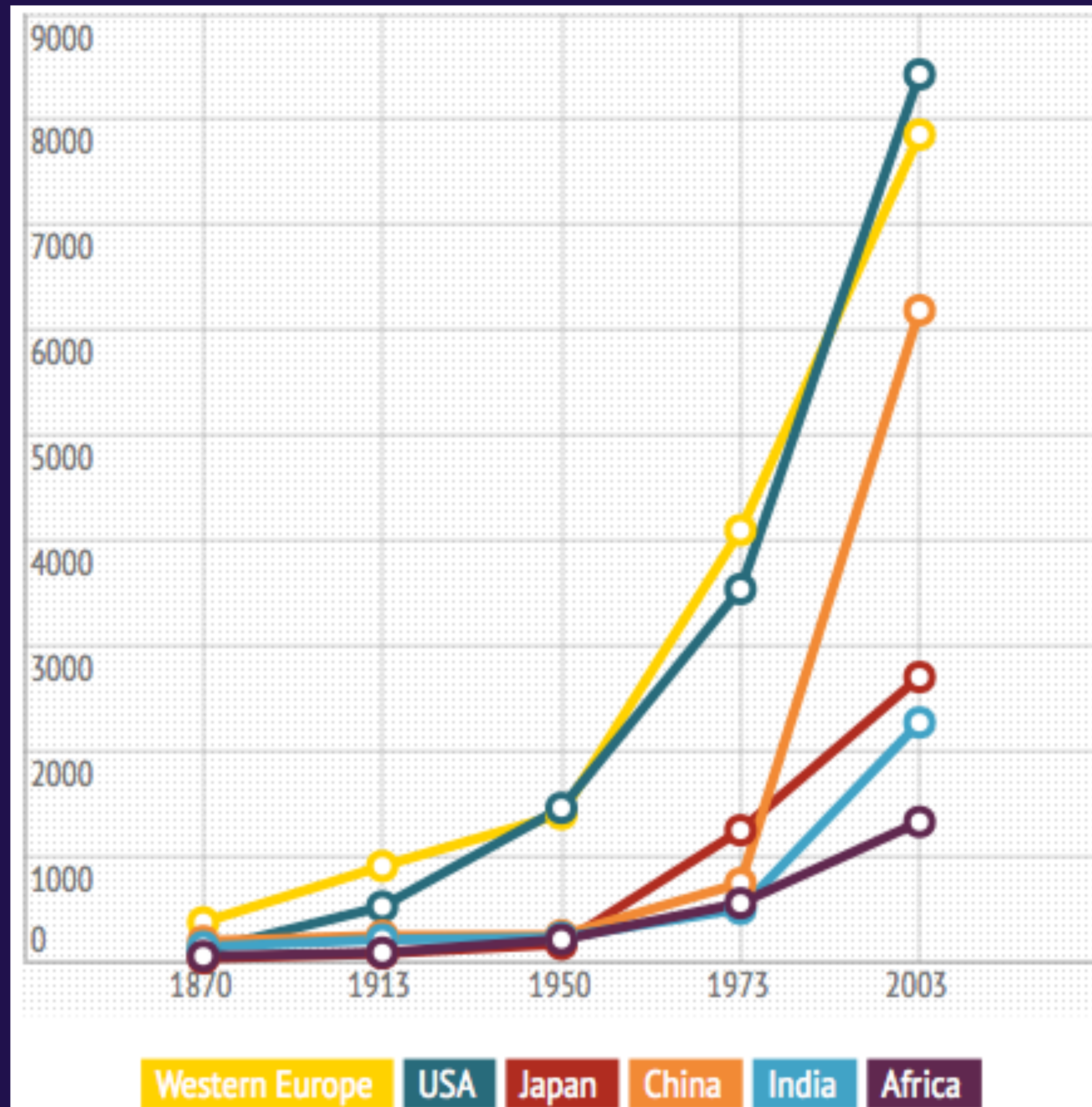
Data Visualization

Daniela Huppenkothen & Ellianna Schwab

**Visualization lets you see things
that would rather go unnoticed**

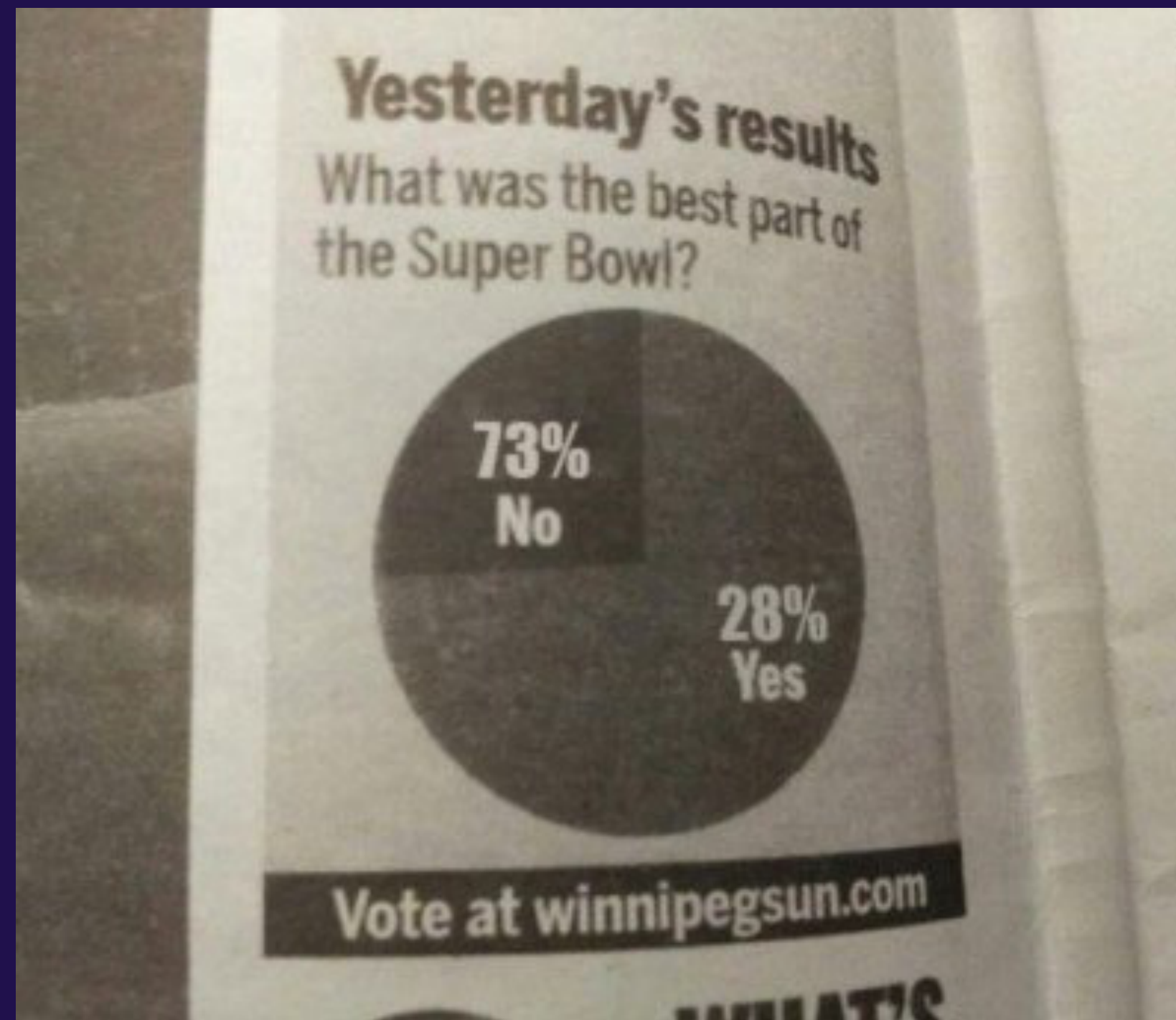
		A	B	C	D	E	F
1		Past GDP	1870	1913	1950	1973	2003
2		Western Europe	367	902	1396	4096	7857
3		USA	98	517	1455	3536	8430
4		Japan	25	71	160	1242	2699
5		China	189	241	244	739	6187
6		India	134	204	222	494	2267
7		Africa	45	79	203	549	1322

<http://www.mulinblog.com/data-visualization-matters/>



think of visualization as a new set
of languages you can use to
communicate

How **not** to do visualization ...





Invitation

What information is this plot conveying?

What elements of this visualization help you understand the information that is being conveyed?

What elements would you change/improve in order to make the meaning clearer?

gestalt

/gə'SHtält/

An organized whole is perceived as more than the sum of each individual component.

gestalt

/gə'SHtält/

Whole Plot > Individual Components

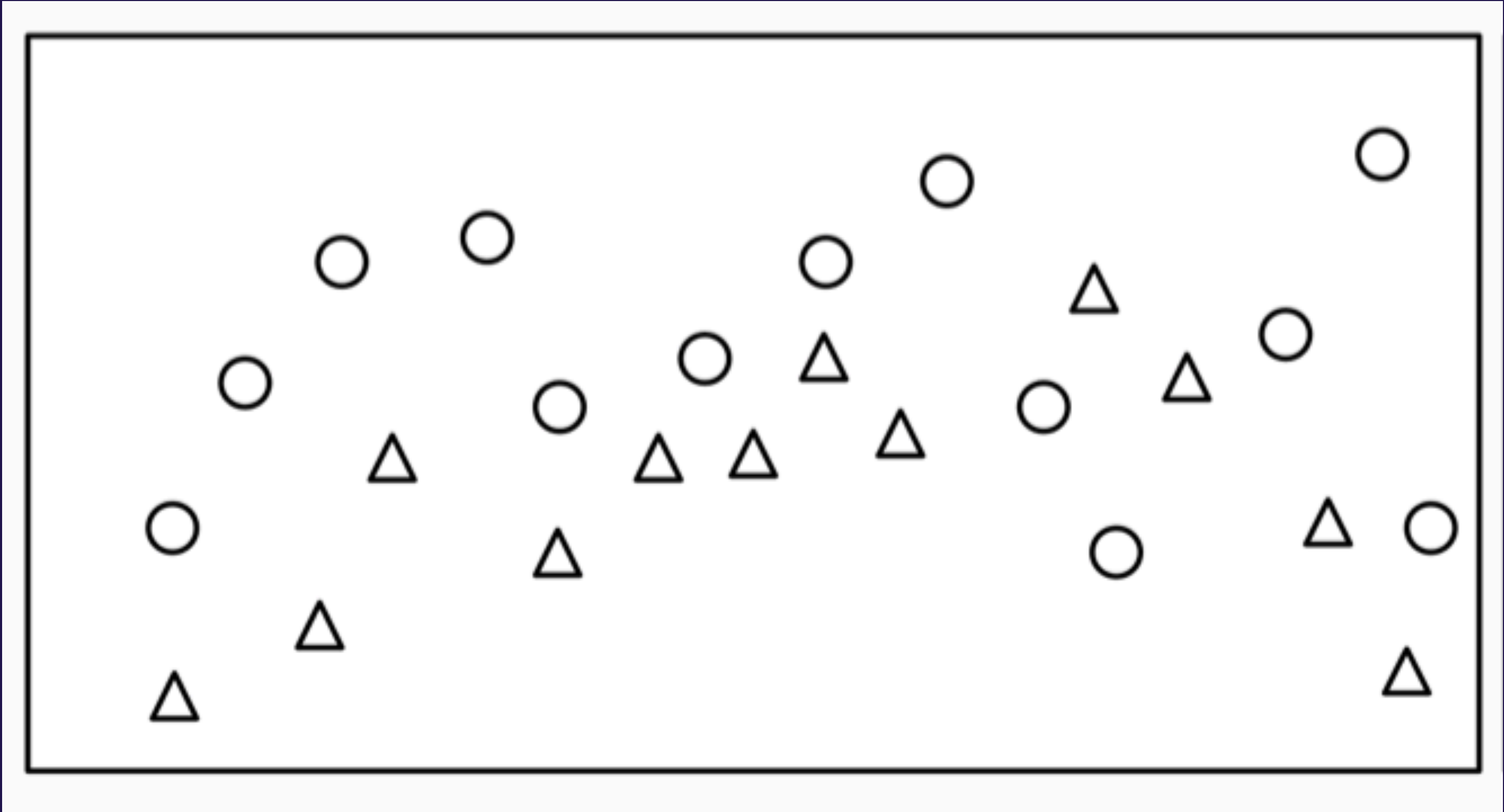


Figure Reference: Healy 18

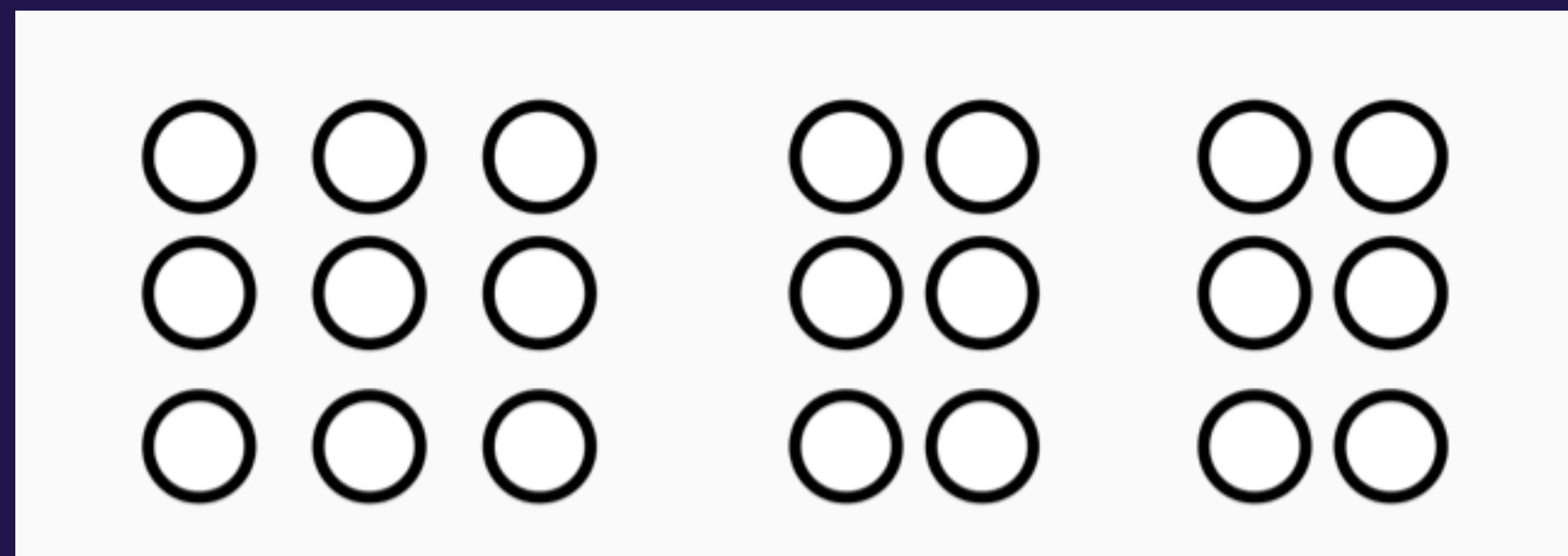


Figure Reference: Healy 18

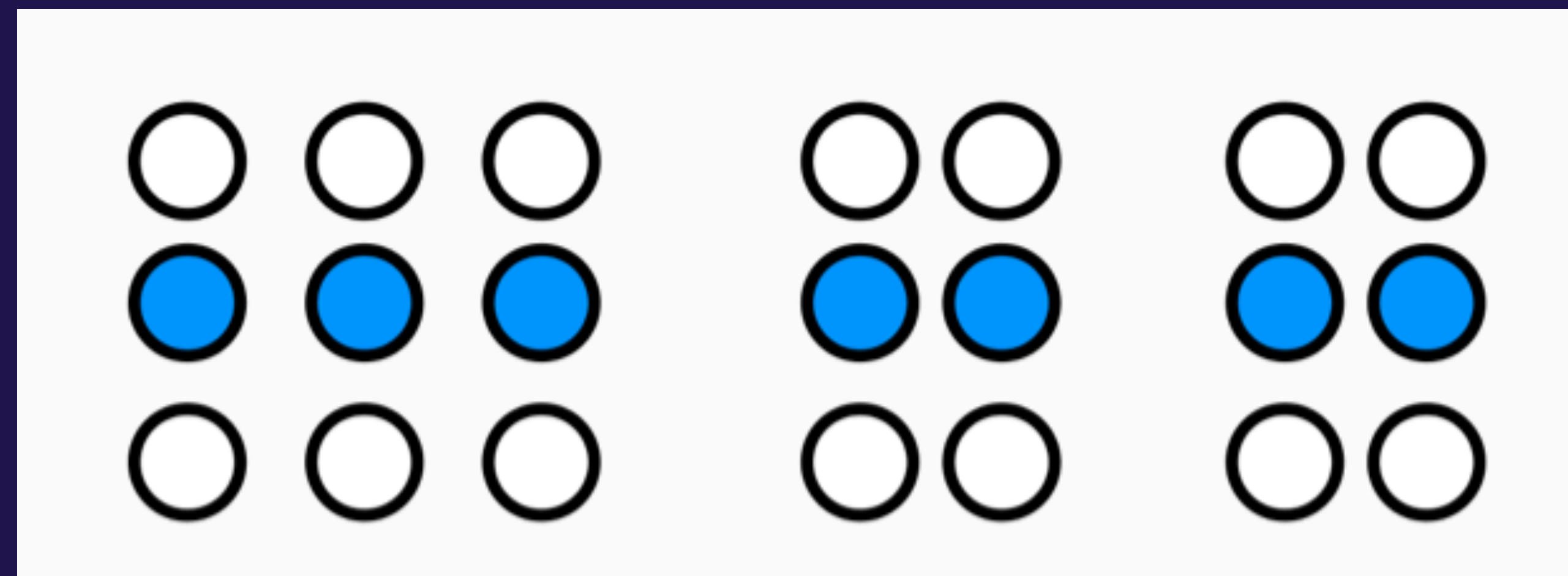


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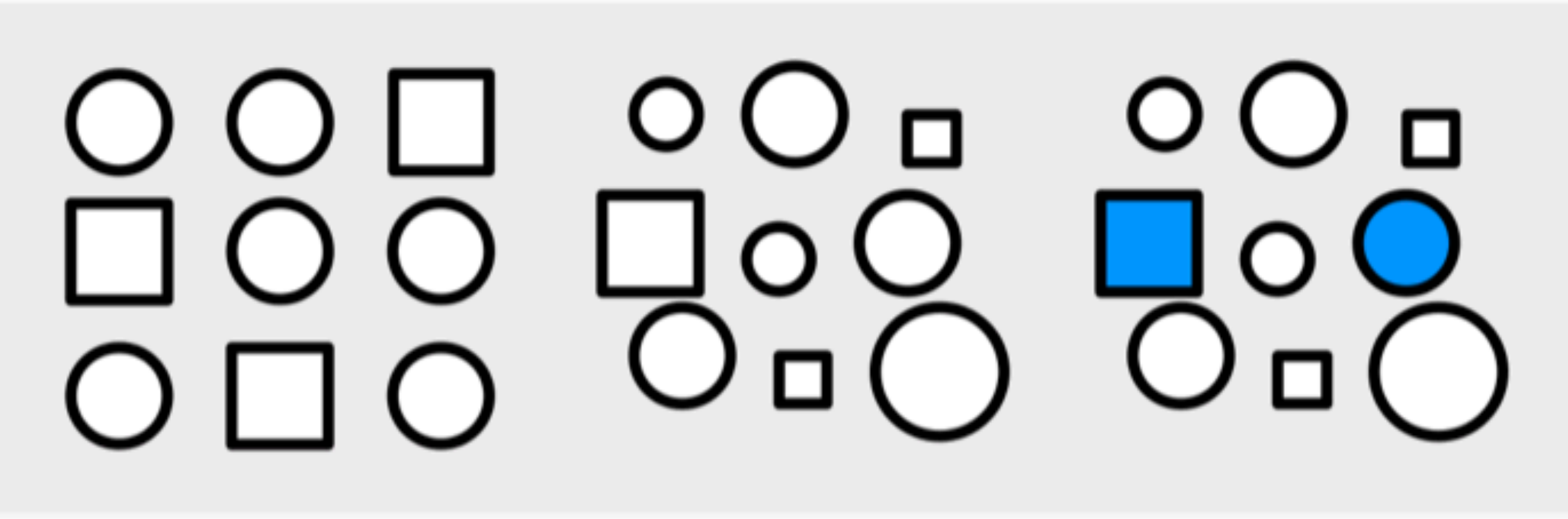


Figure Reference: Healy 18

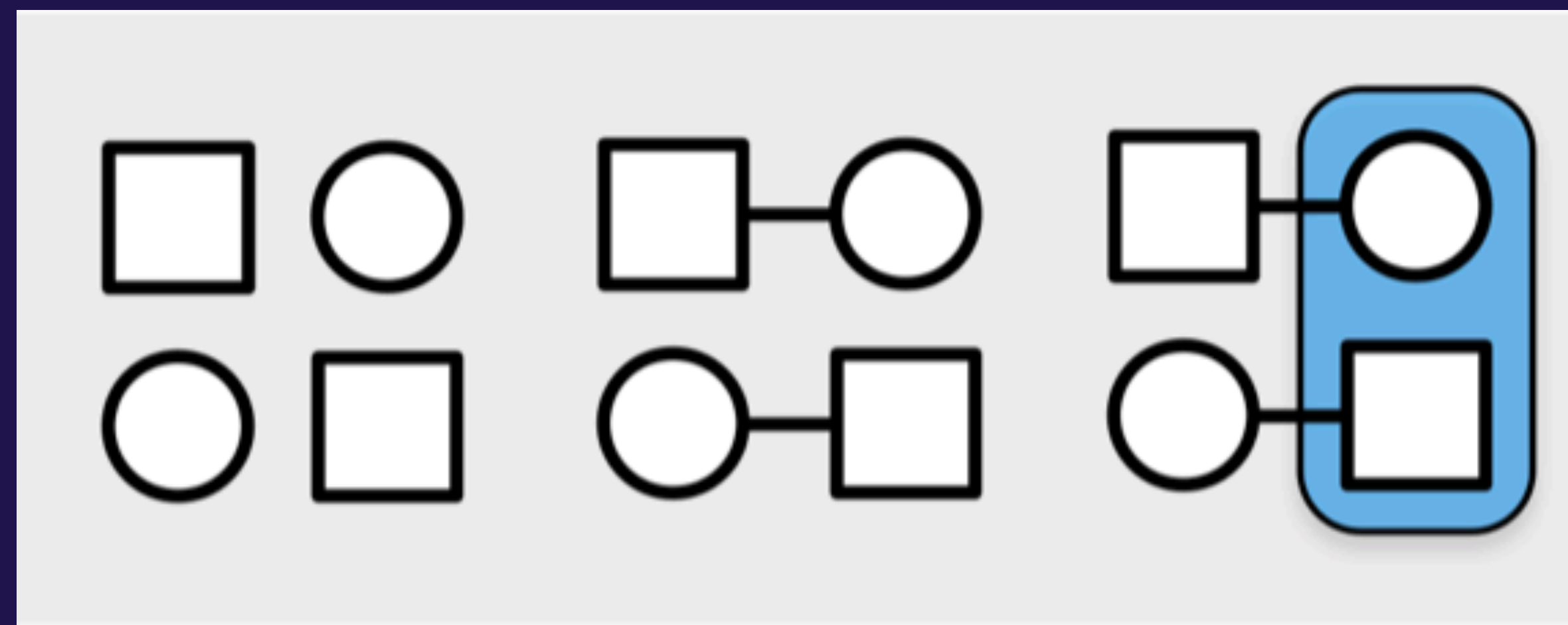


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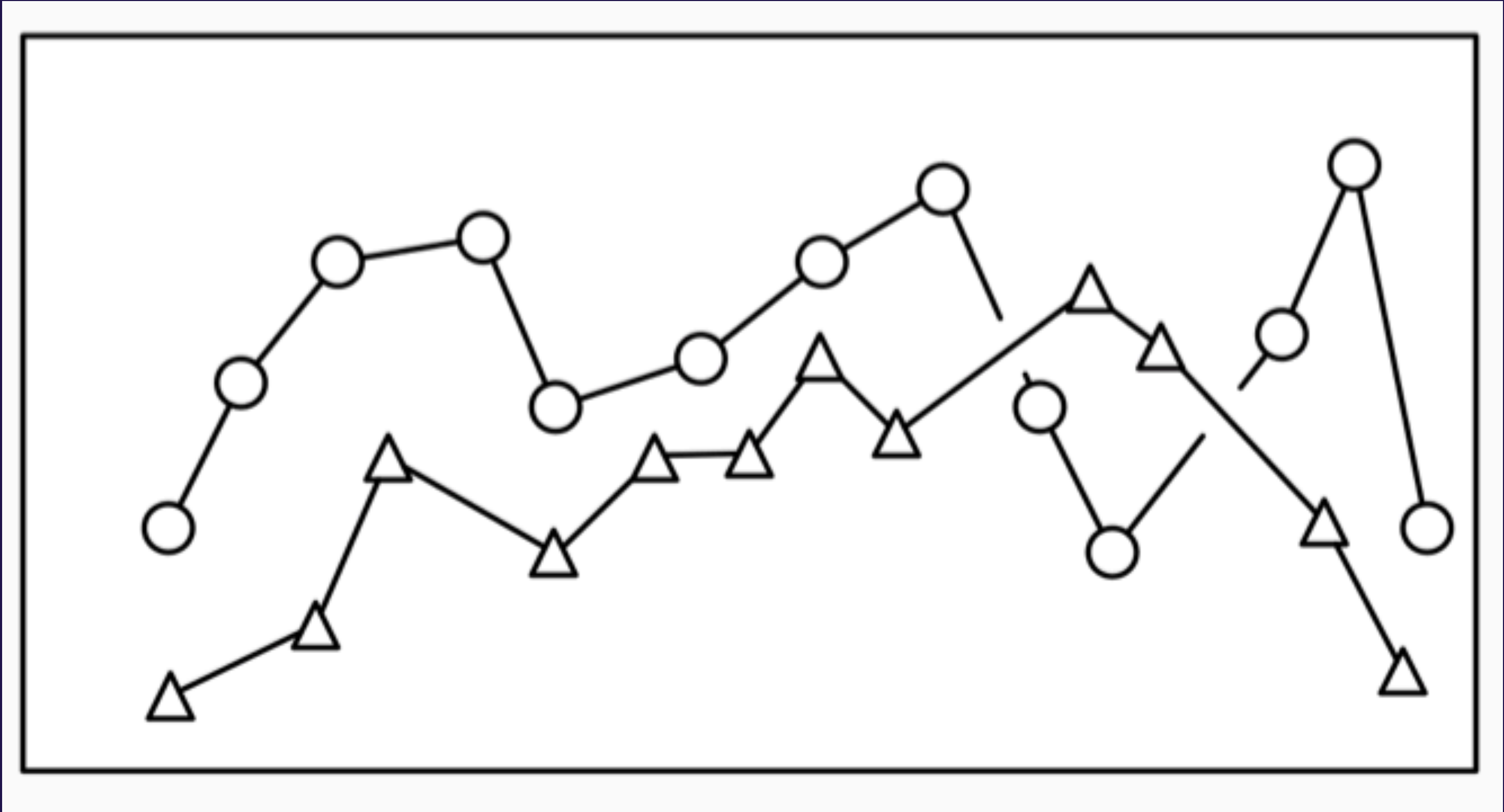


Figure Reference: Healy 18

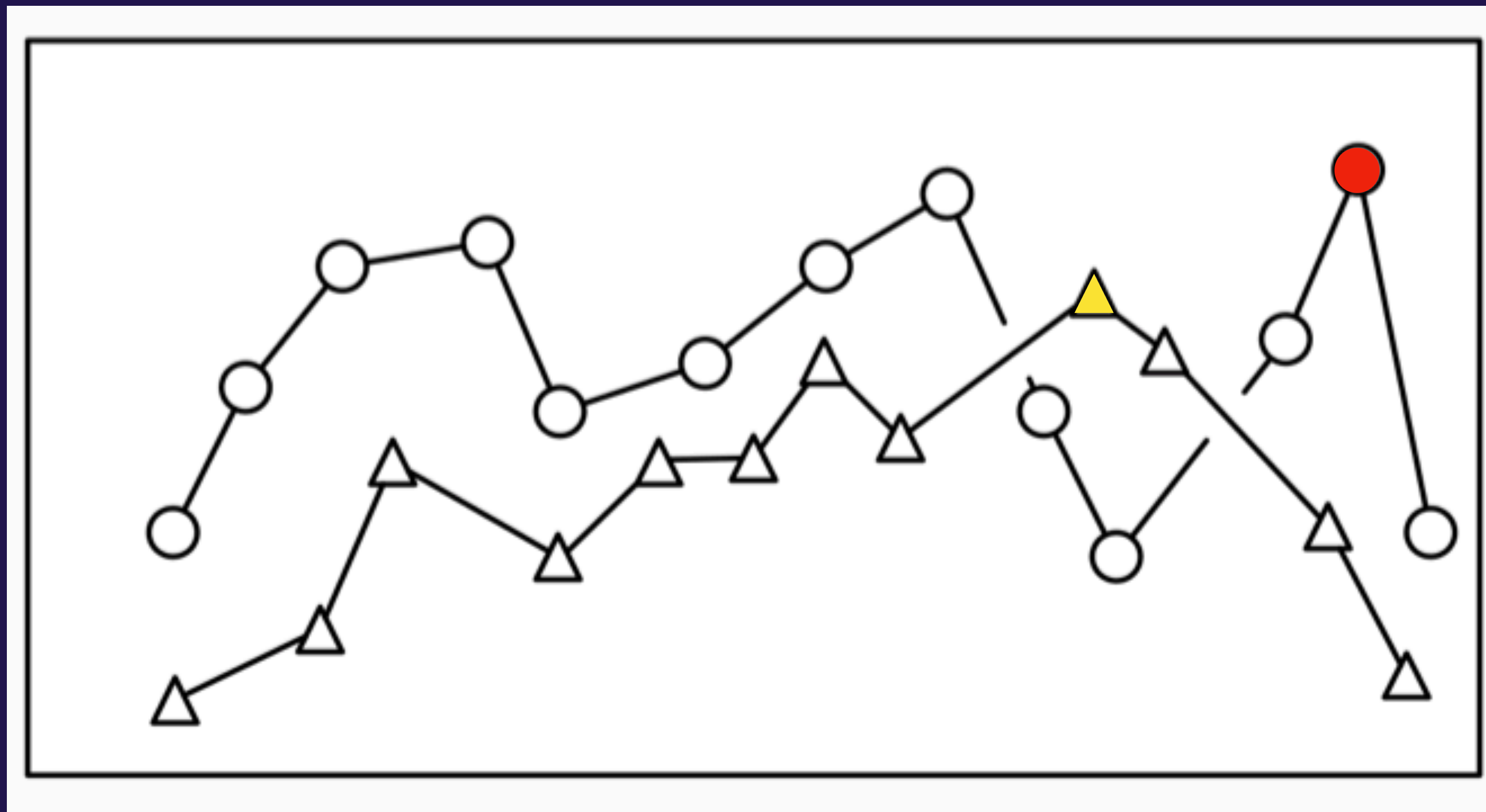


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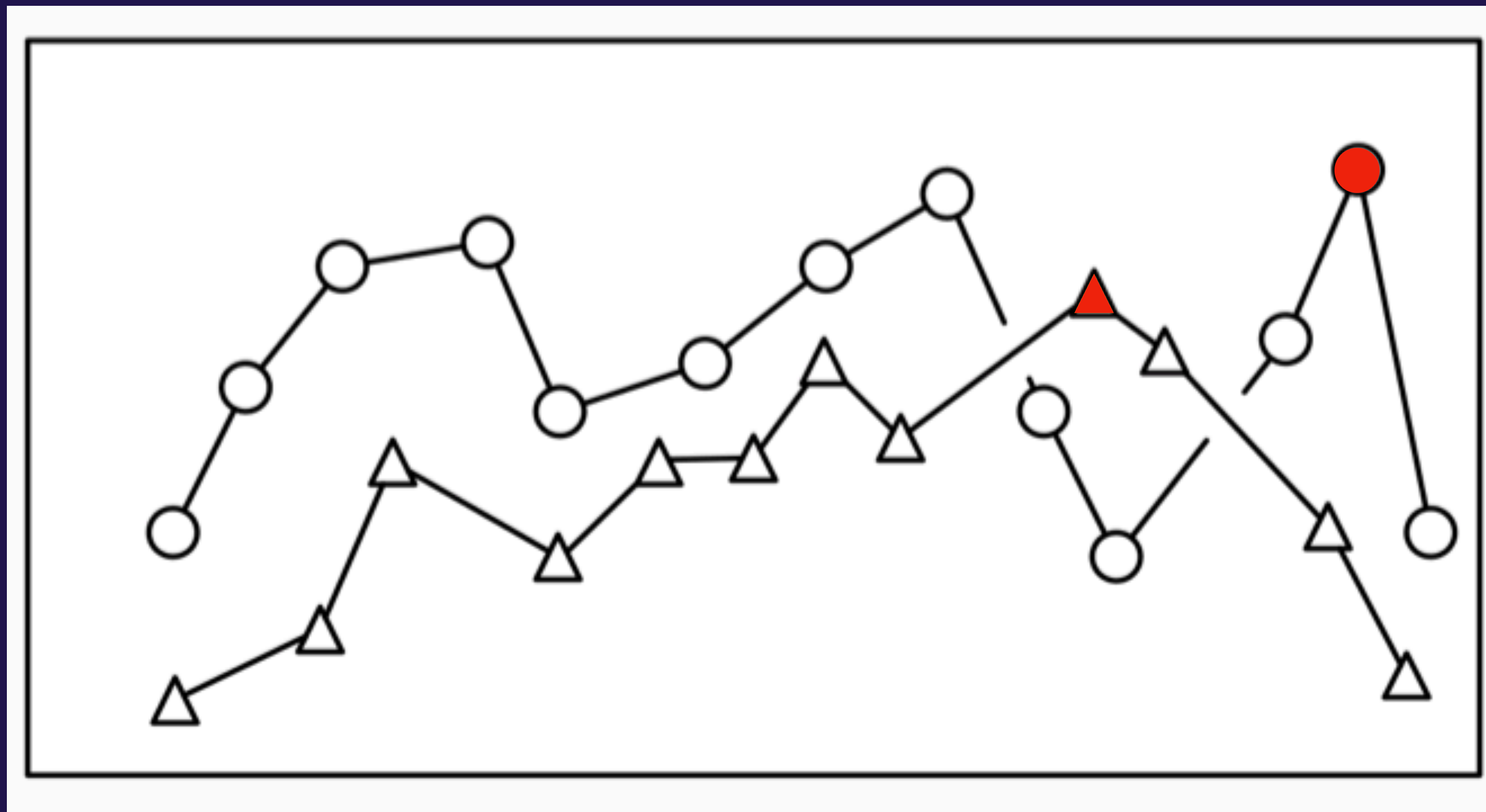


Figure Reference: Healy 18

pre-attentive processing

/pri - ə'ten(t)iv 'prä,ses,ing/

**The processing in short-term
spatial memory of visual properties
without our conscious action.**

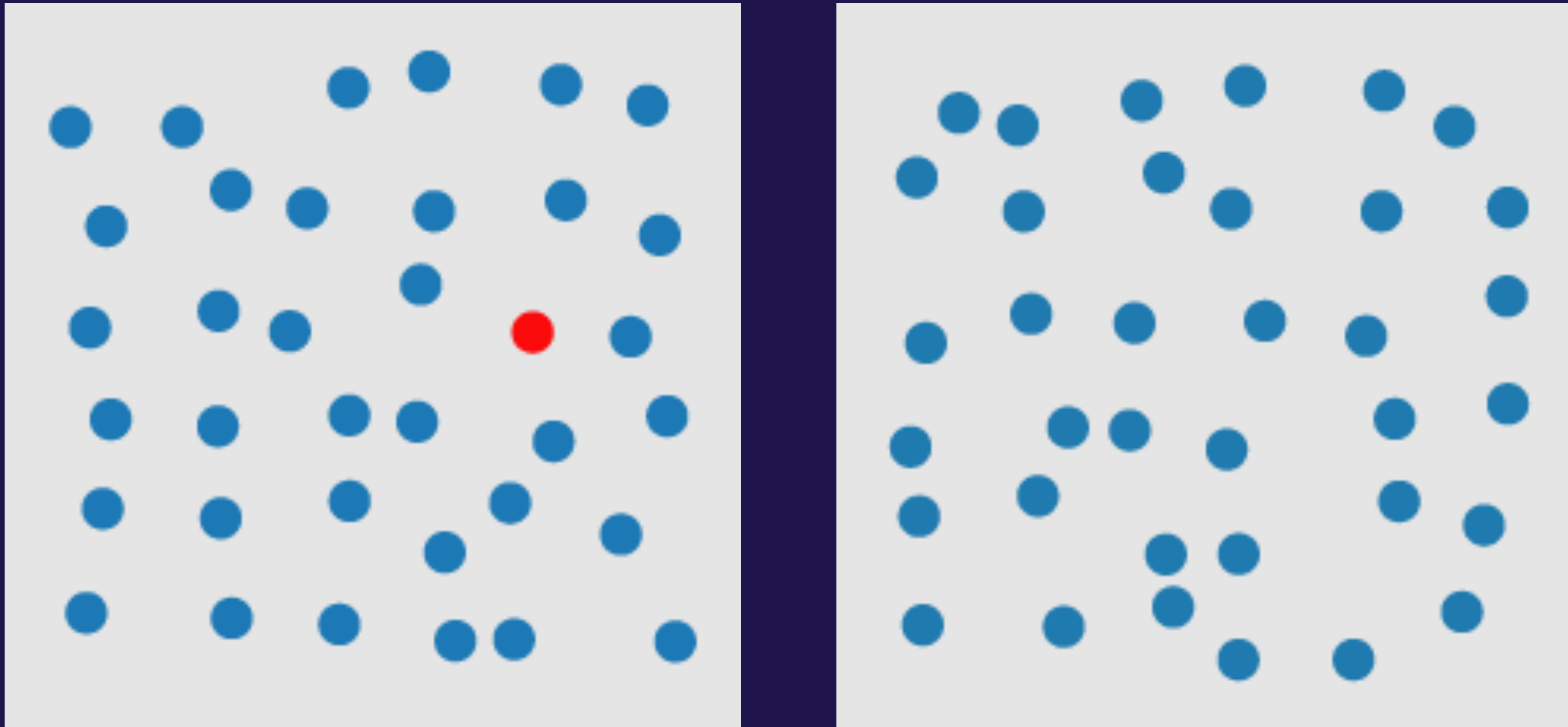
pre-attentive processing

/pri - ə'ten(t)iv 'prä,ses,ing/

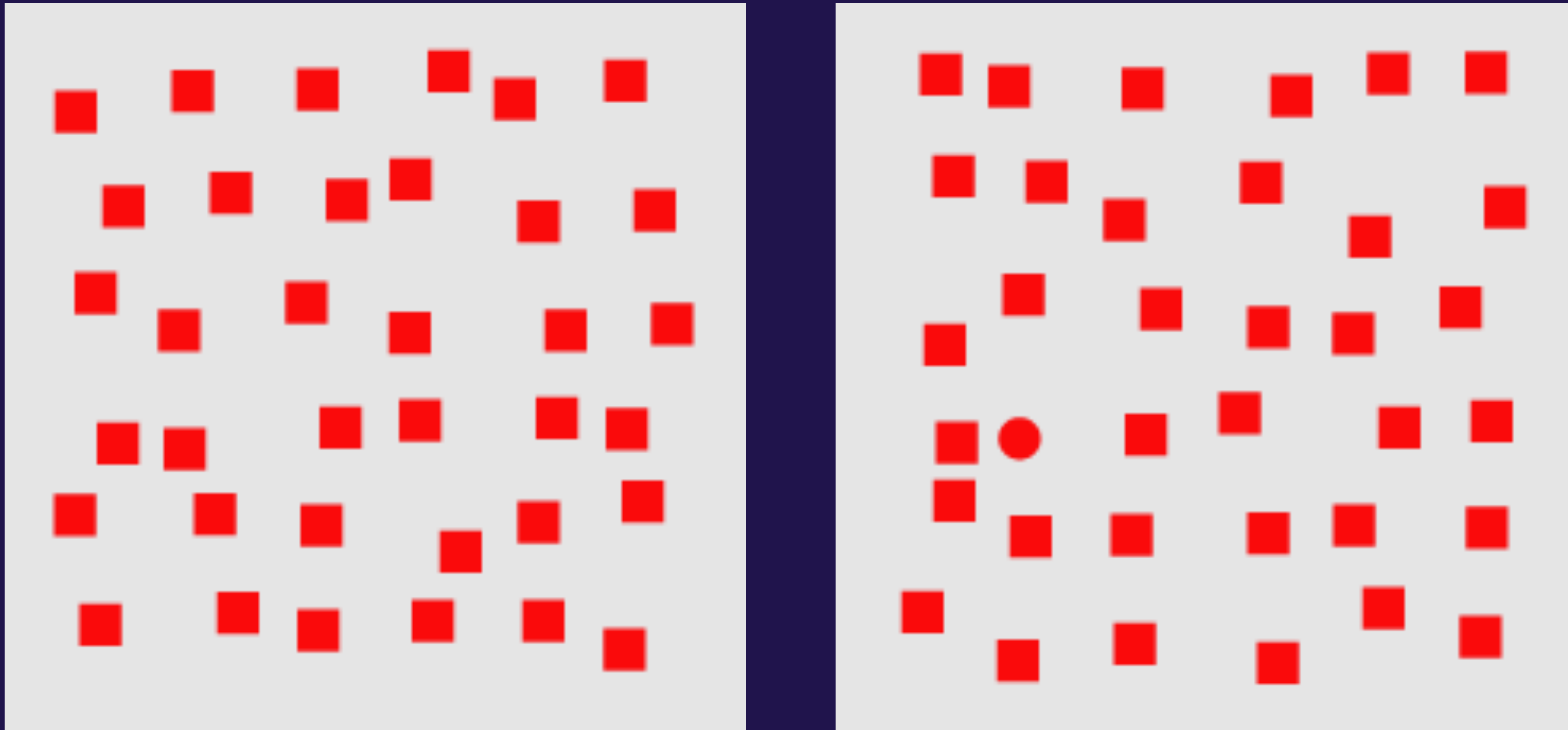
Color | Relative Position

Movement | Form

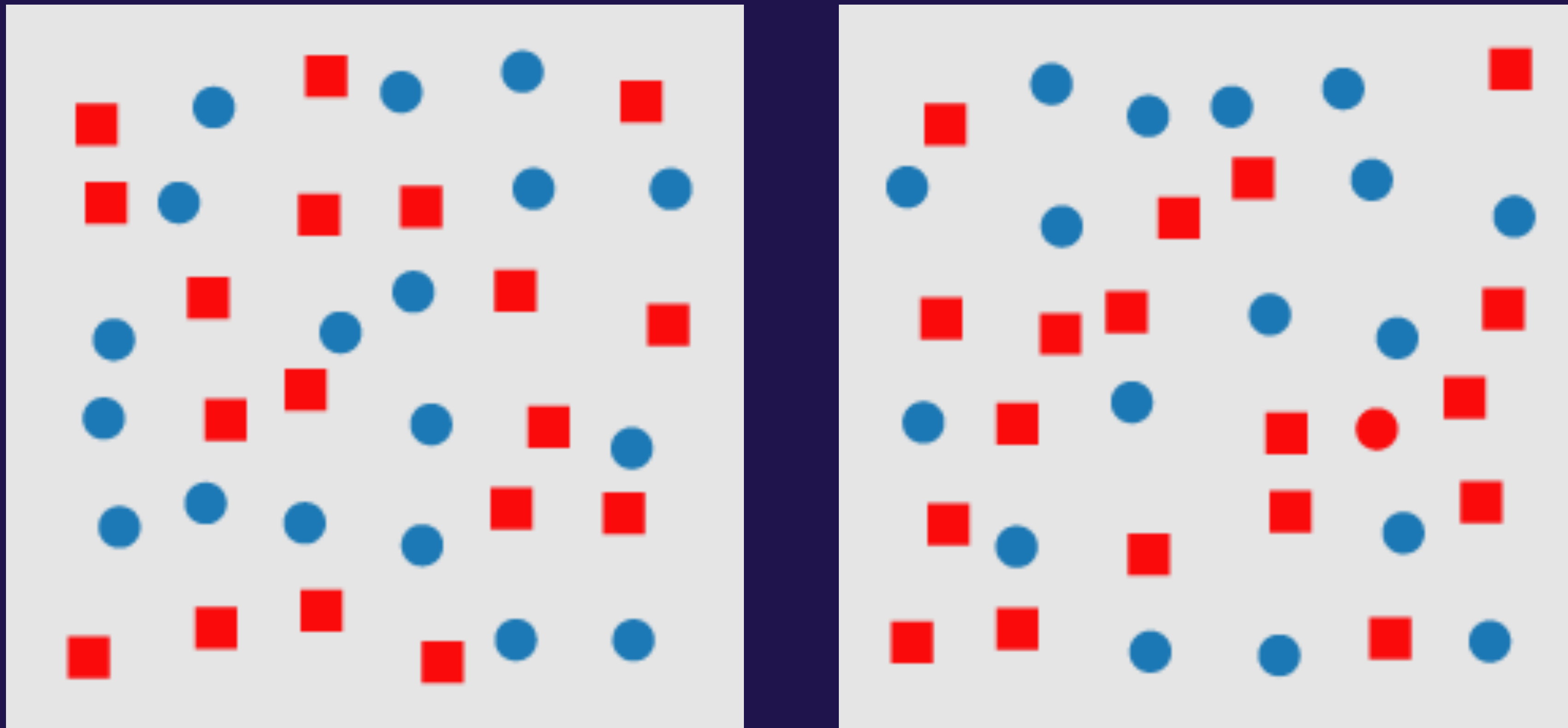
pre-attentive task



pre-attentive task



serial search



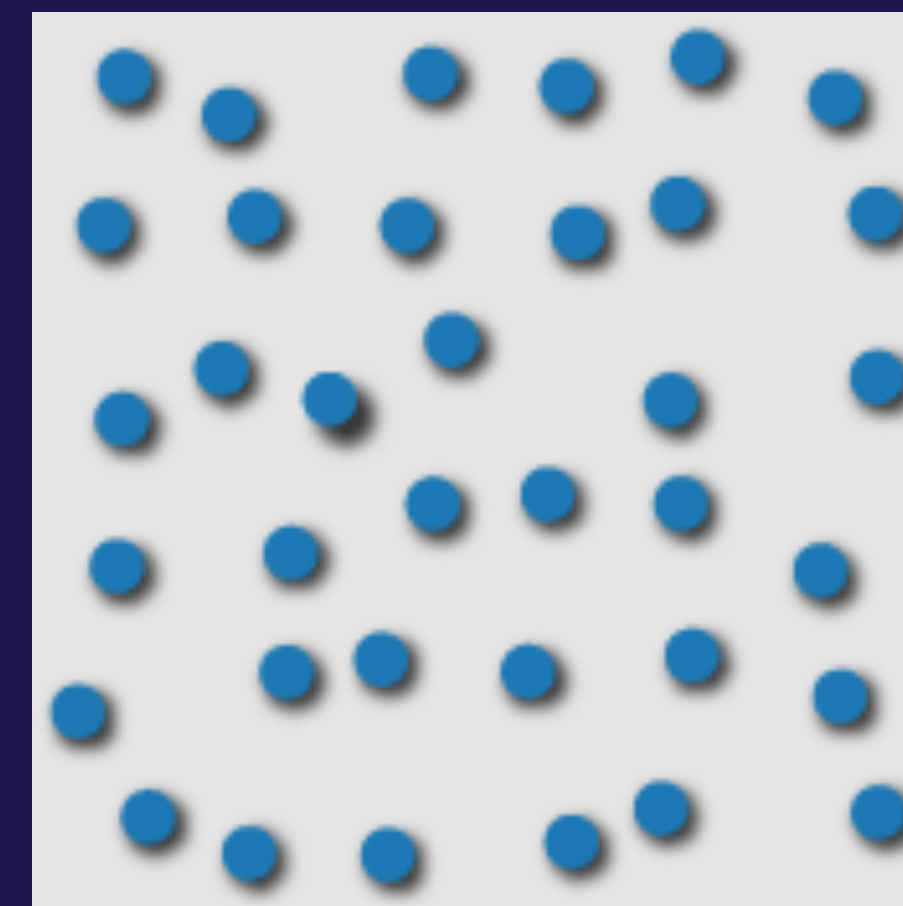
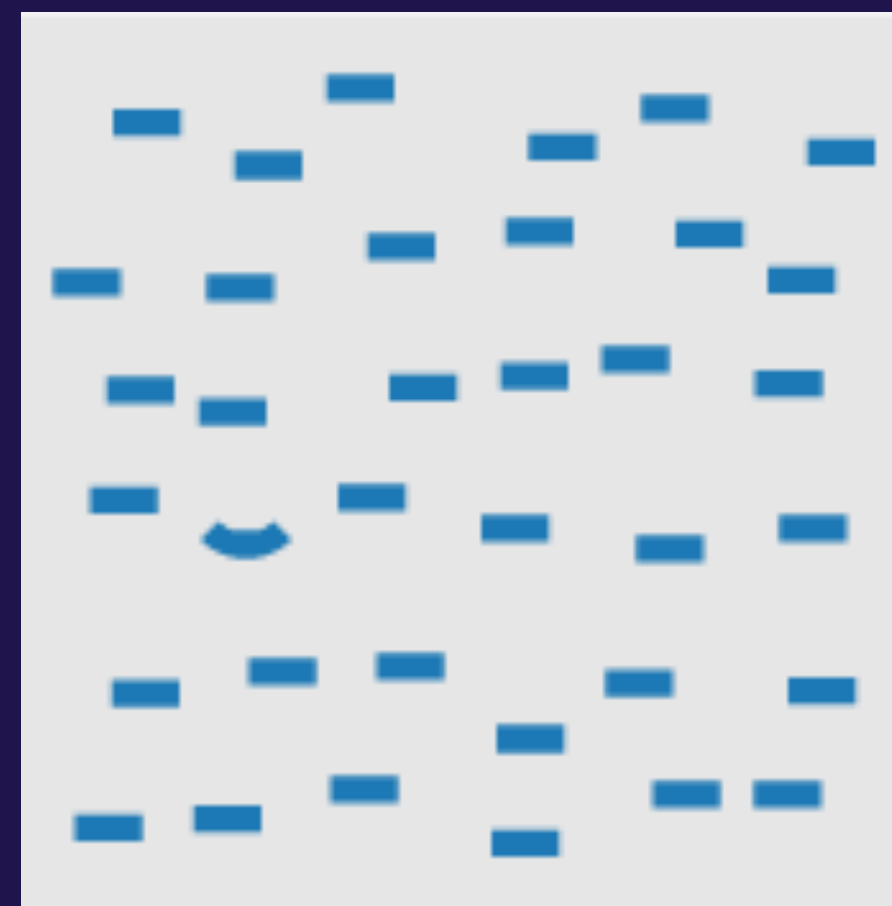
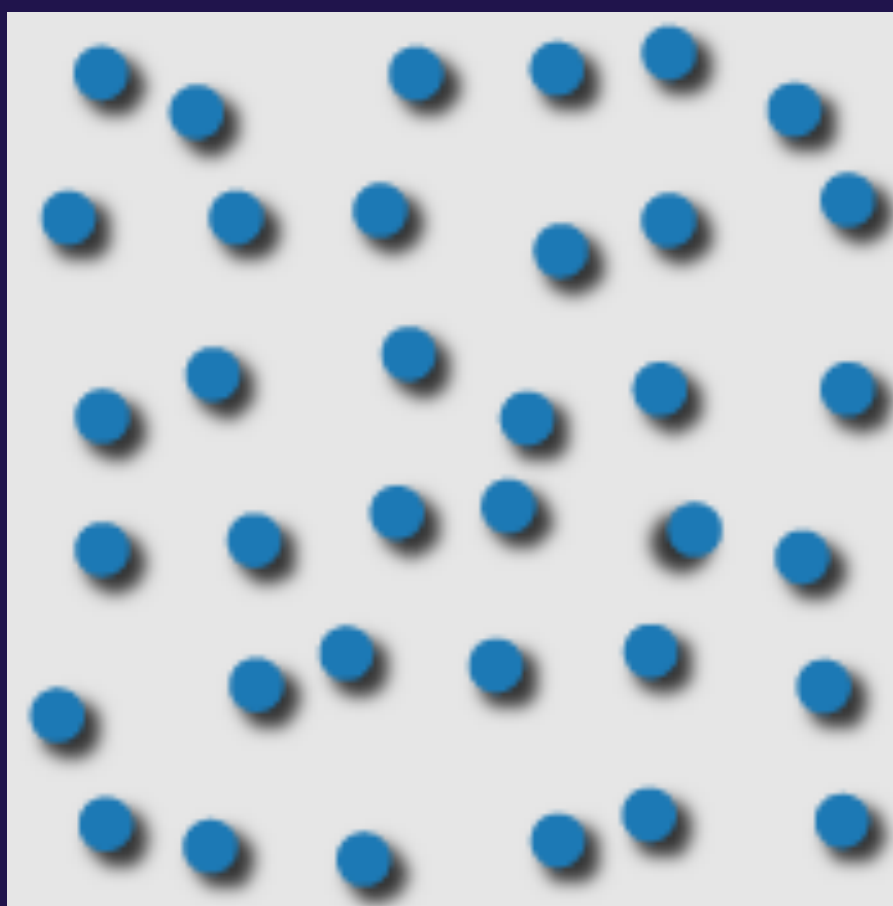
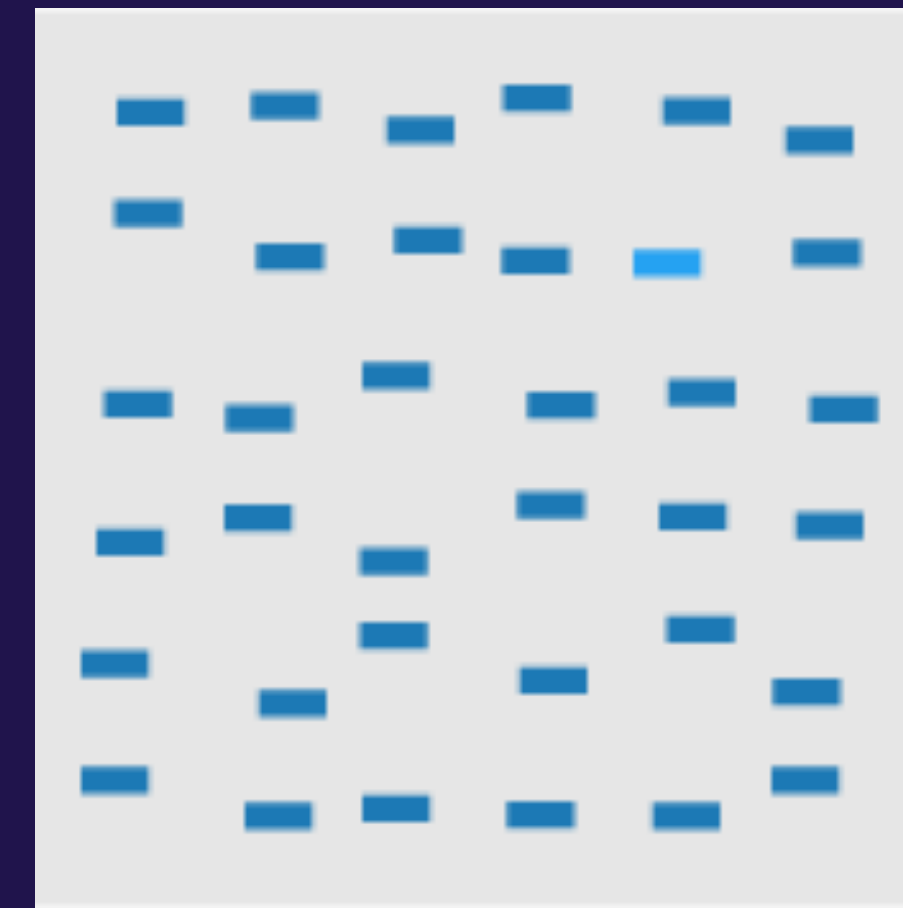
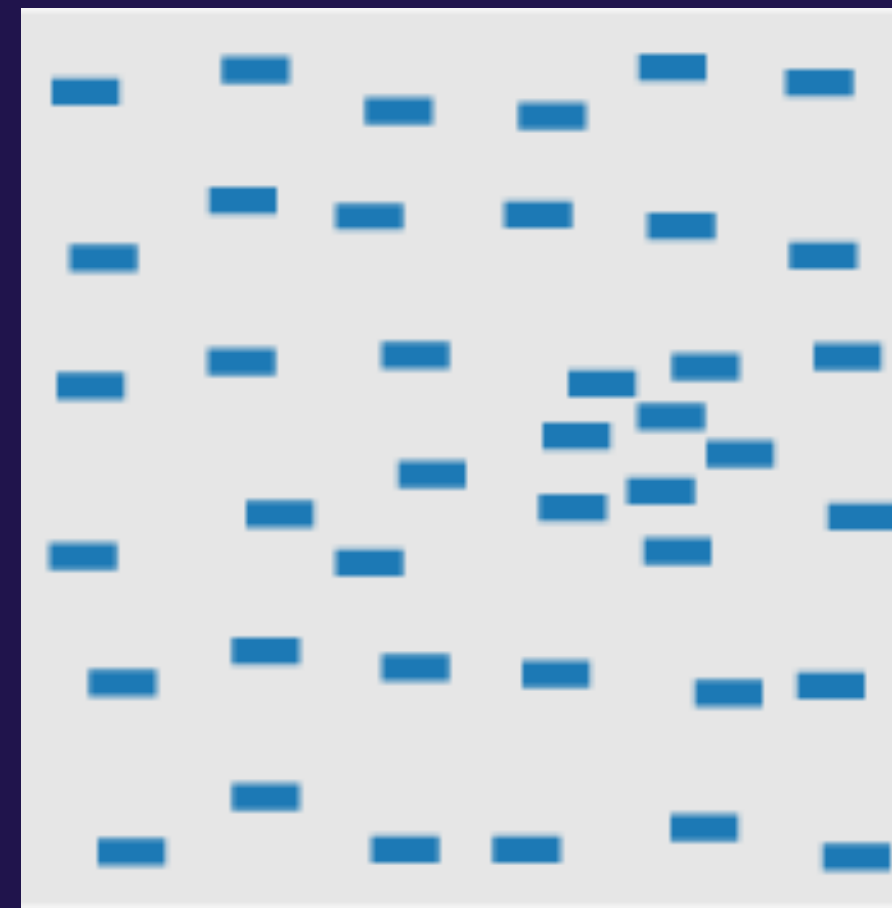
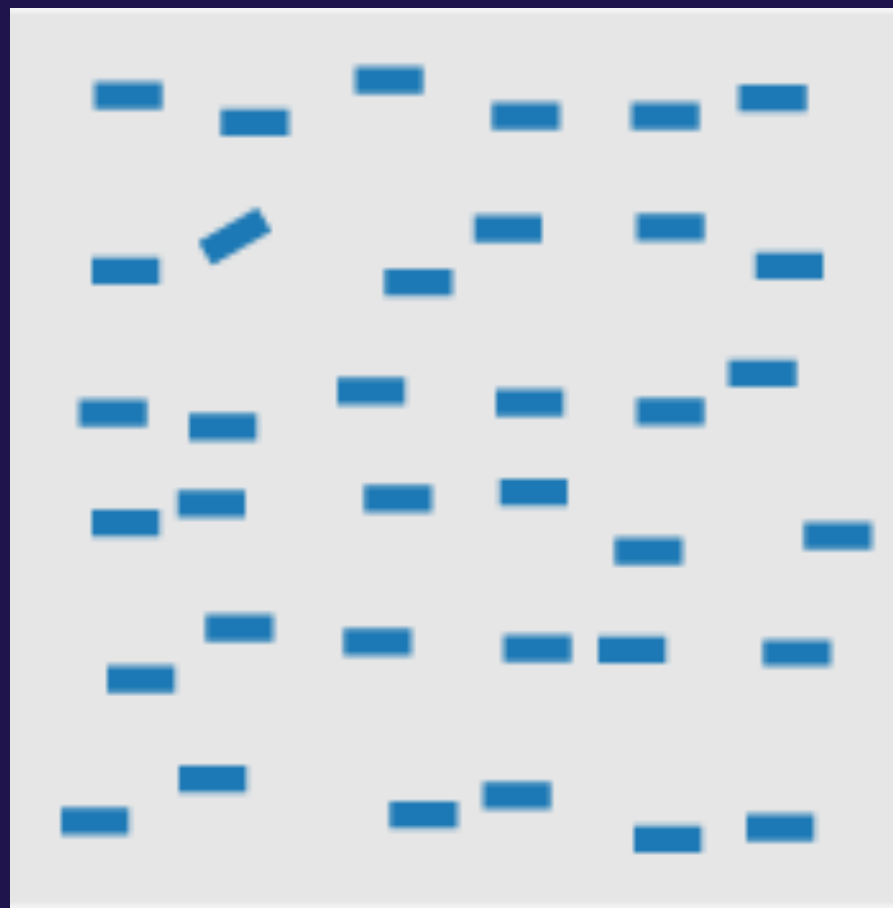
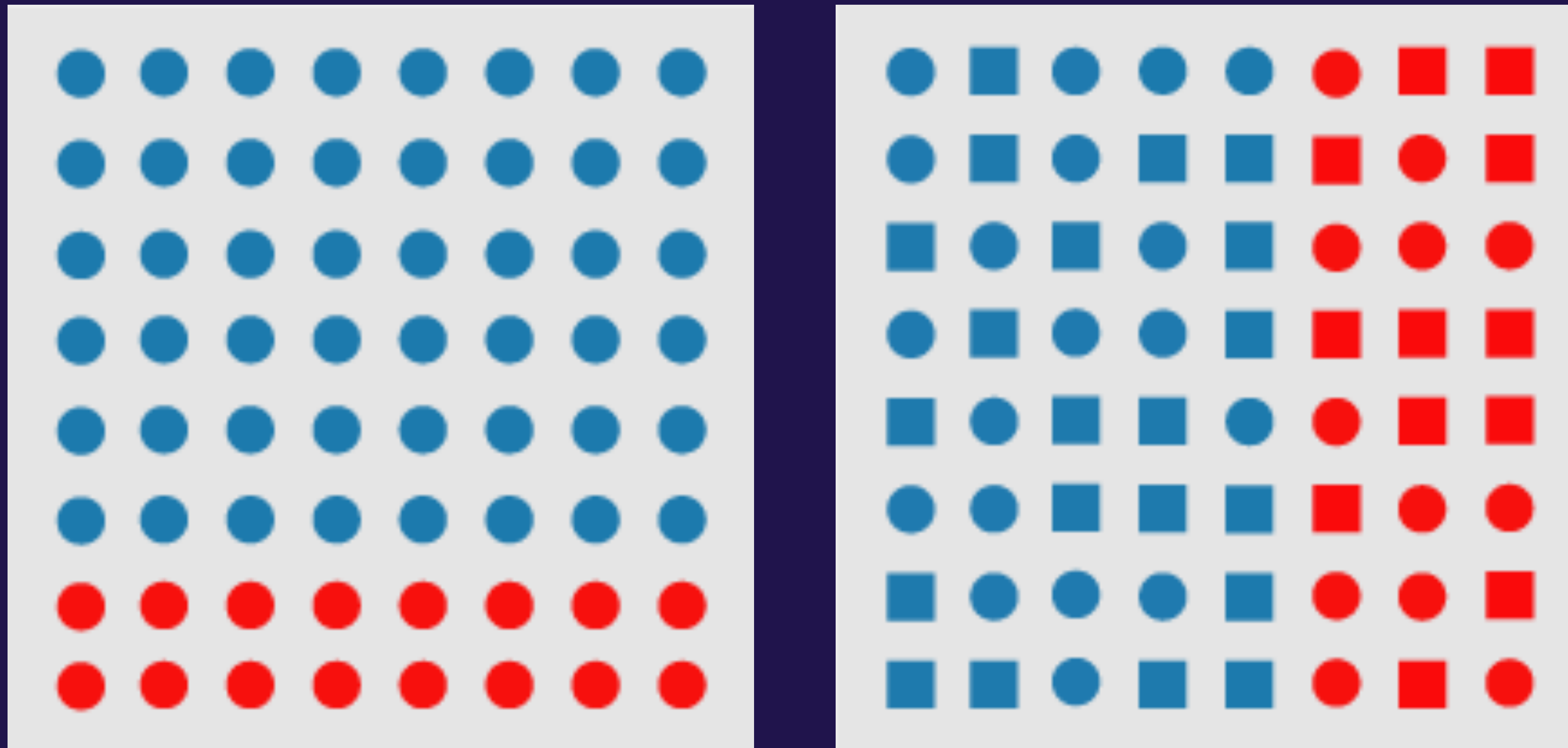
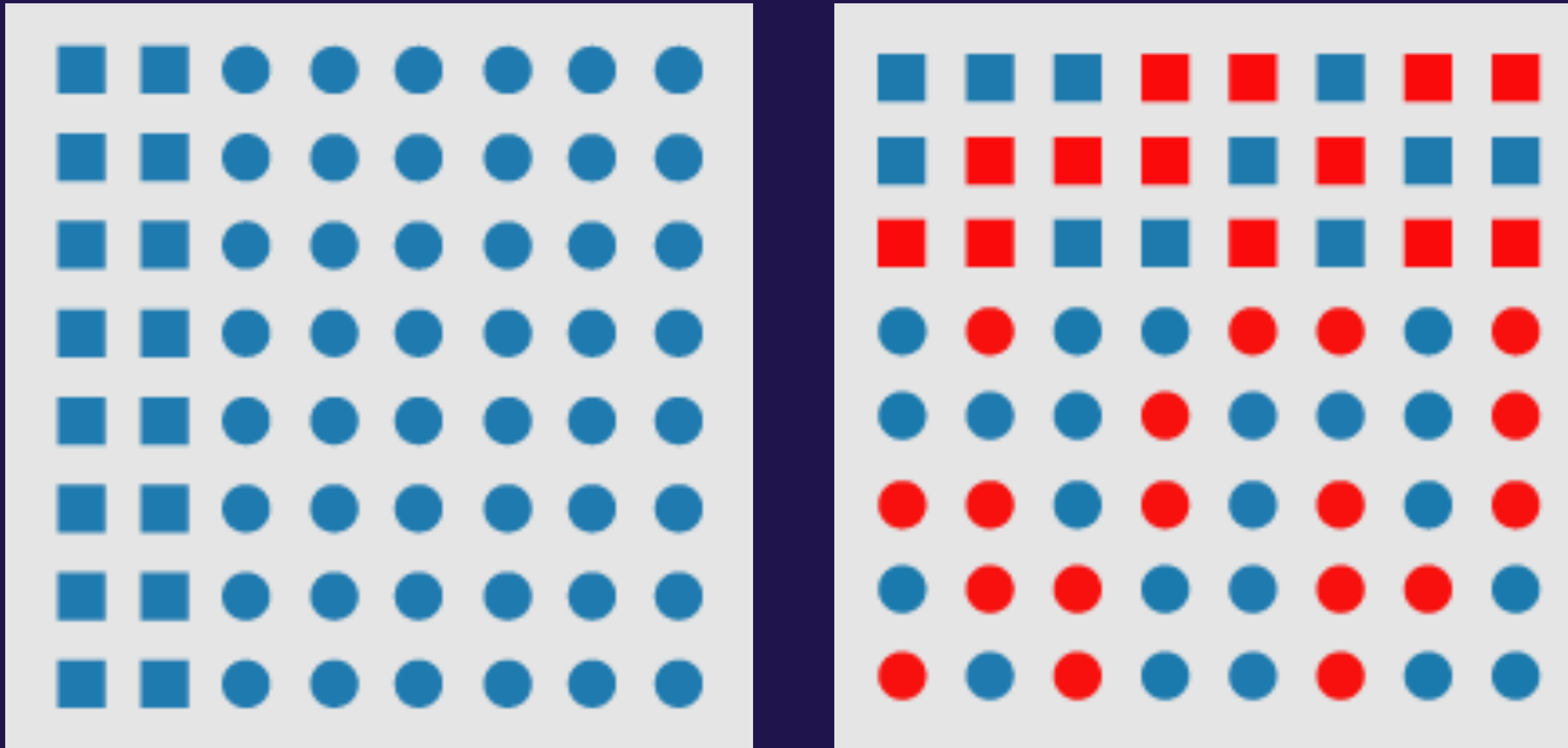


Figure Reference: <https://www.csc2.ncsu.edu/faculty/healey/PP/>

Feature Hierarchy



Feature Hierarchy



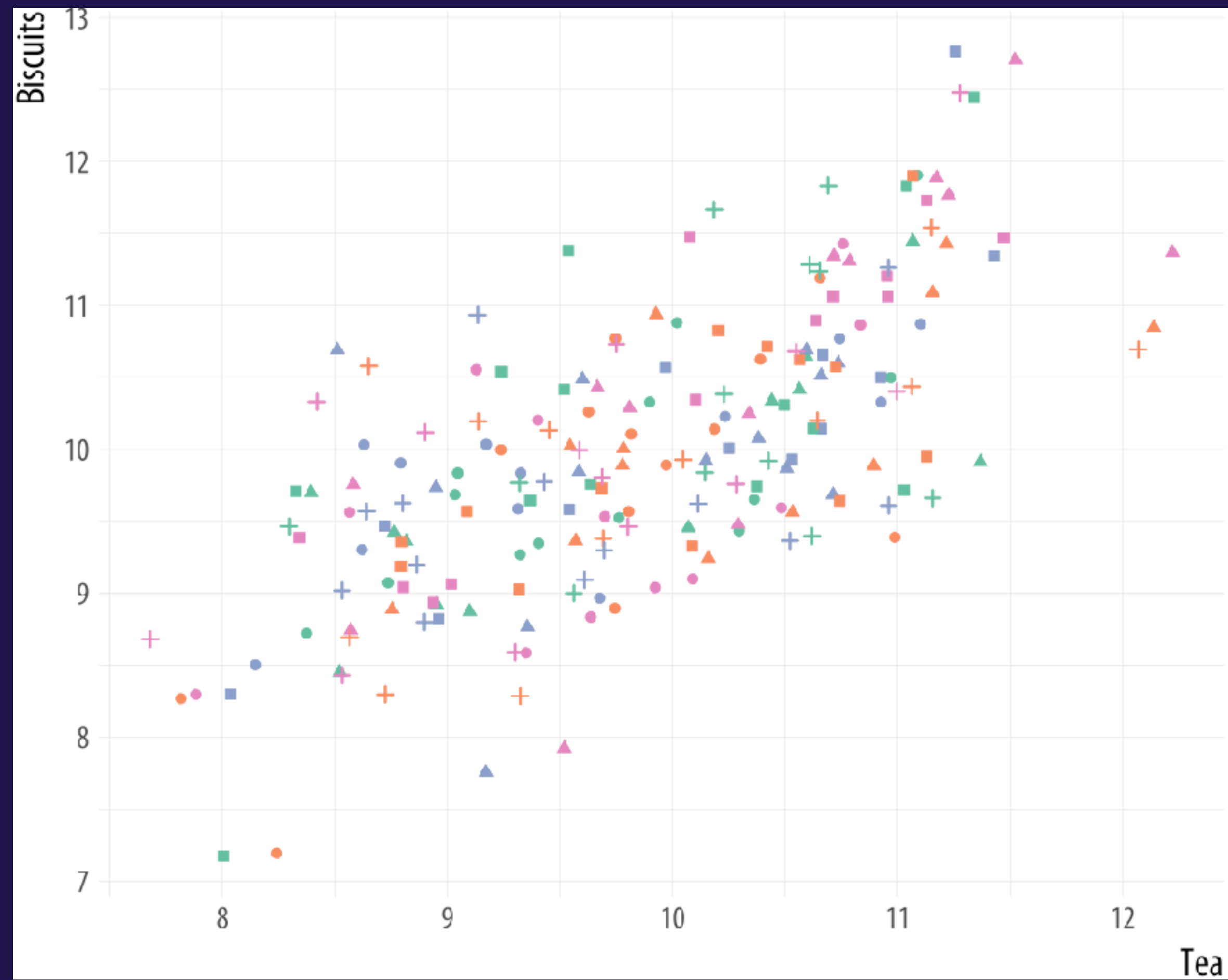


Figure Reference: Healy 18

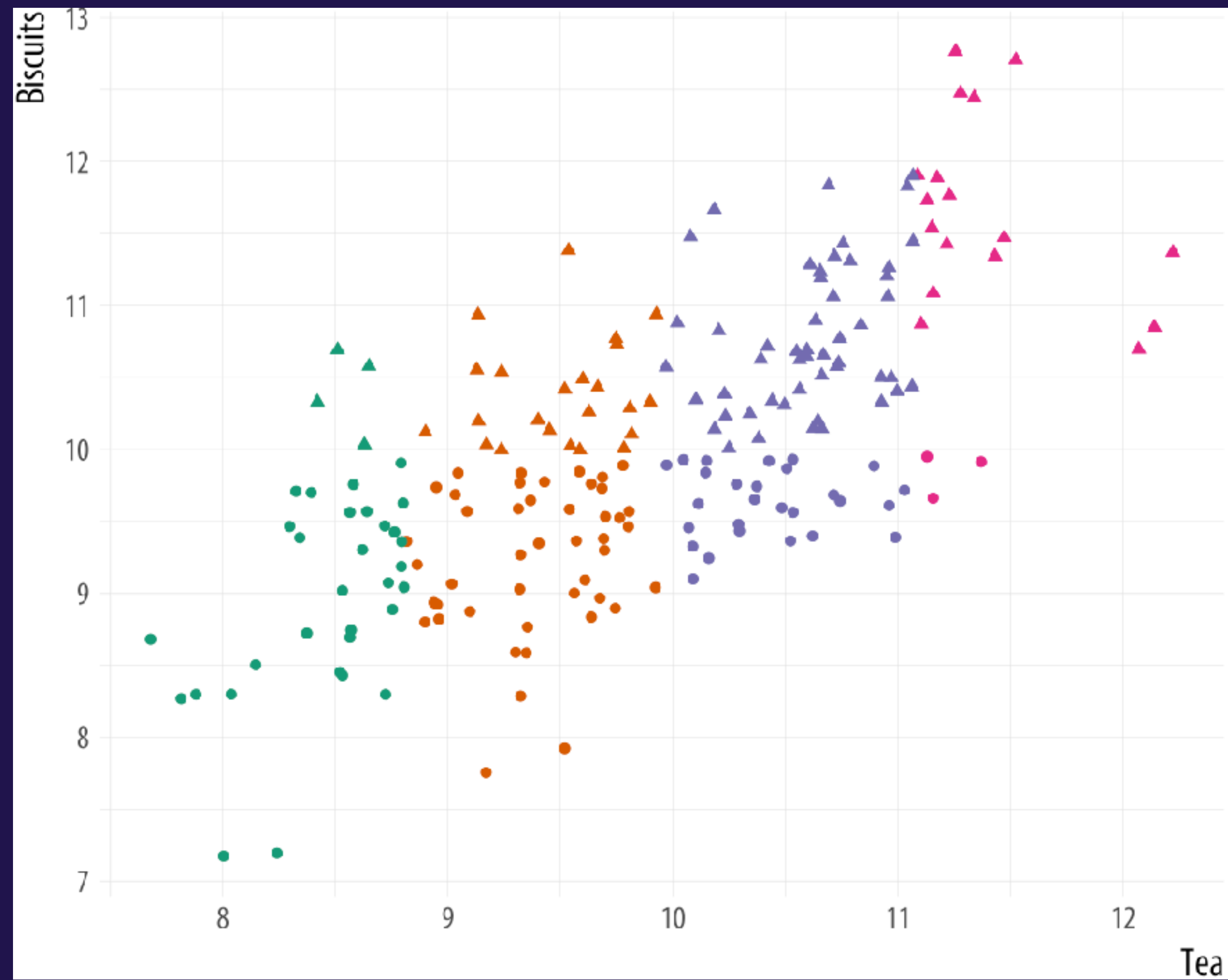


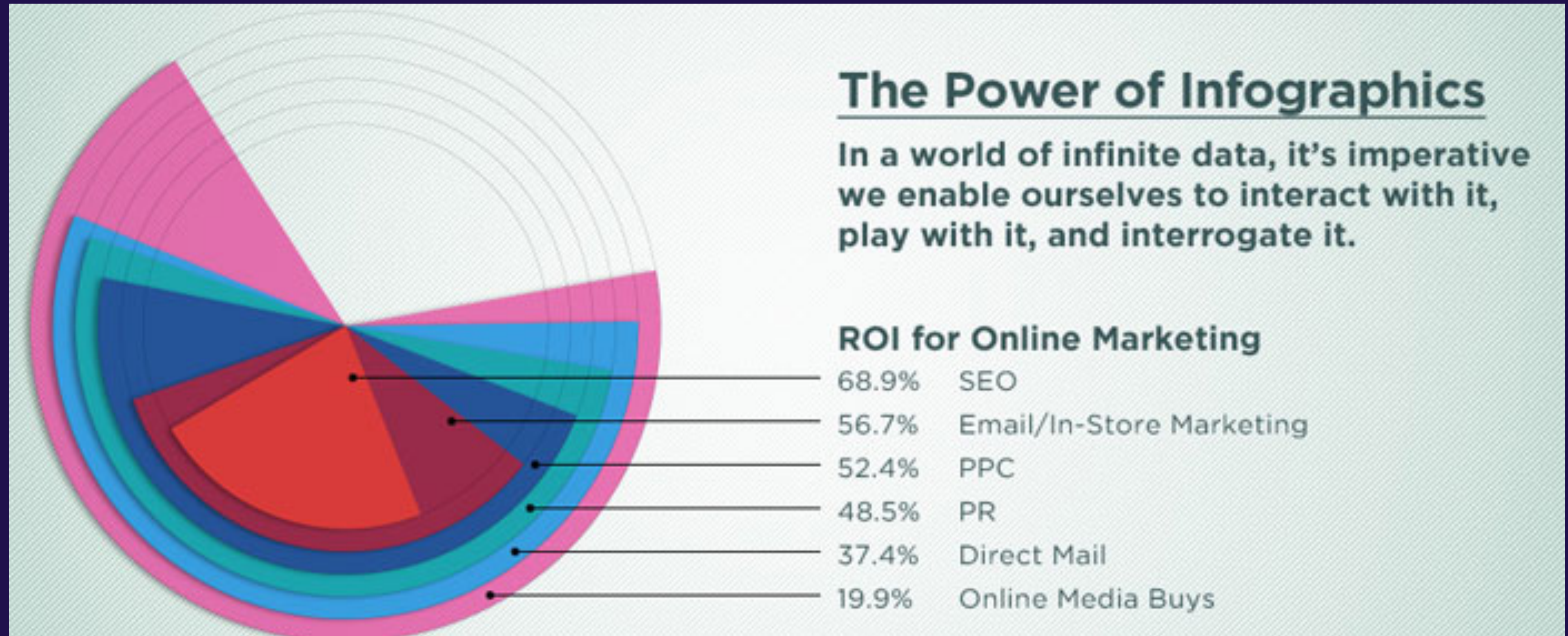
Figure Reference: Healy 18



Walkthrough: Improving a Visualization



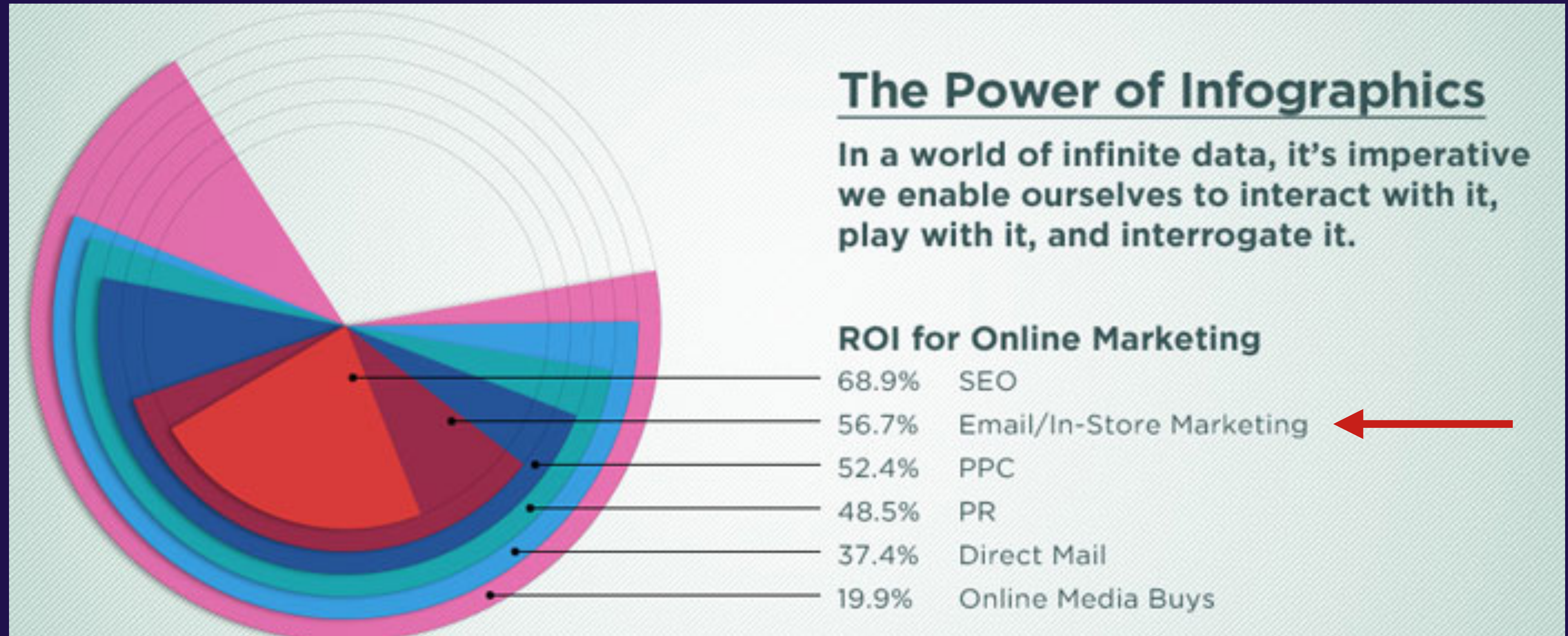
ROI = return on investment
SEO = search engine optimization
PPC = paid per click



What is the **key point**?



ROI = return on investment
SEO = search engine optimization
PPC = paid per click



What is the **key point**?



Click to add title

—



Invitation: Improve A Visualization

- 1) **form groups (3-4 people)**
- 2) **pick a data visualization (own or from GitHub)**
- 3) **brainstorm improvements (1 person, 1 idea at a time)**
- 4) **each vote on top 3 improvements**
- 5) **pick top 3-5 improvements**
- 6) **draw prototype on paper**



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