a few more words about questionnaires

visualization class: we saw different type of data

27

4.1 102 3.14

-0.1 16

arguably the most common

numerical data

Monday

Wednesday

Tuesday Thursday

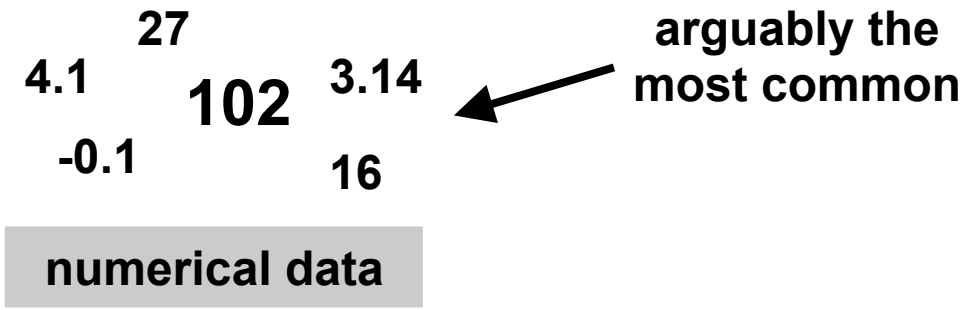
ordinal data

categorical data

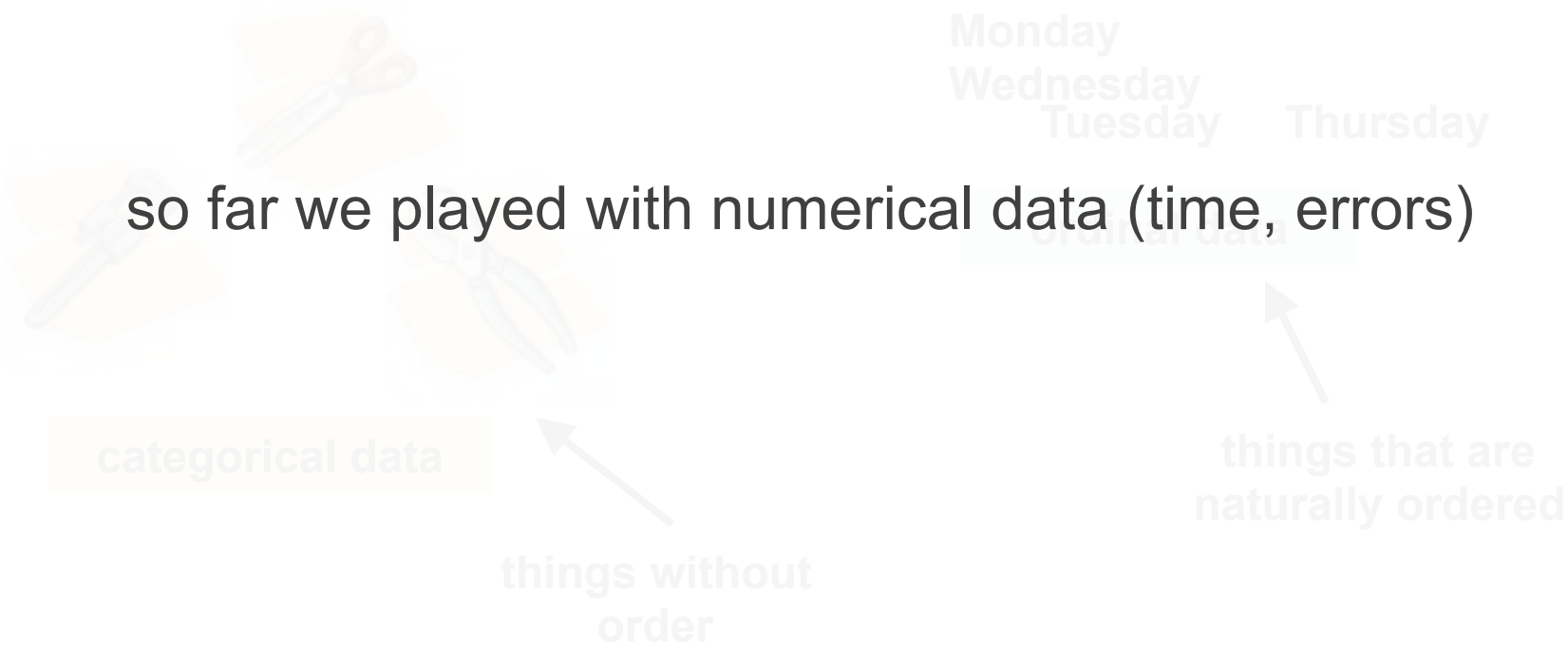
things without order

things that are naturally ordered

visualization class: we saw different type of data

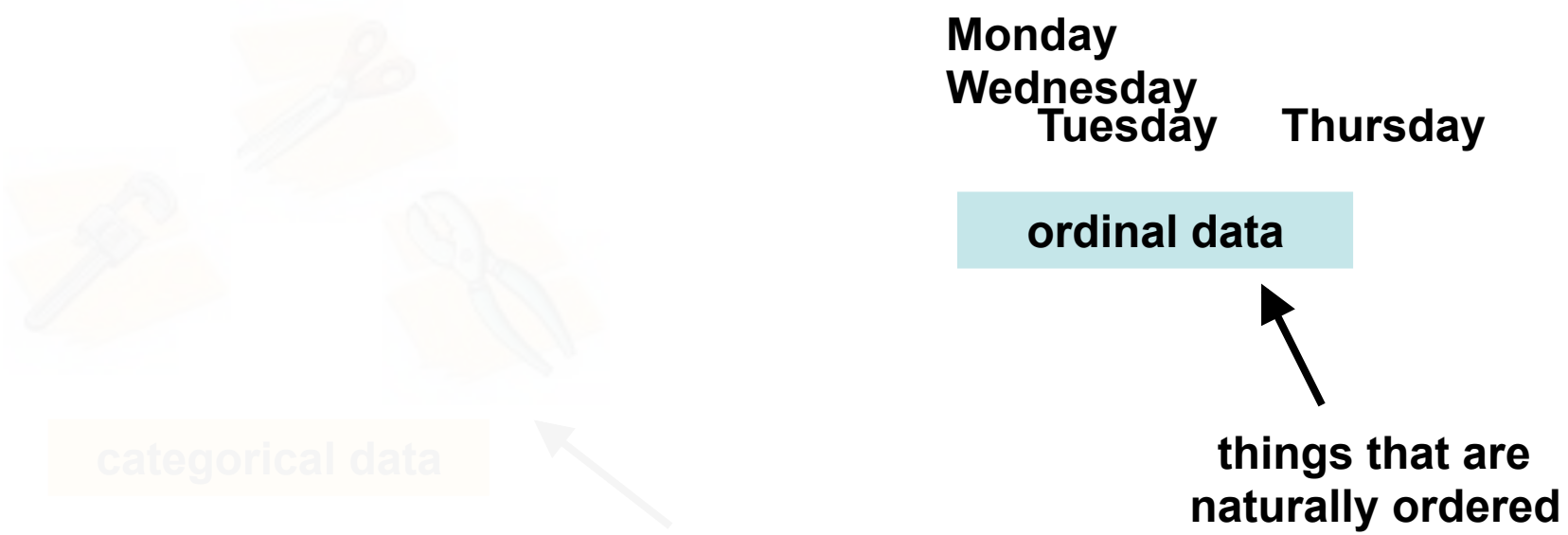


so far we played with numerical data (time, errors)



visualization class: we saw different type of data

you could also deal with ordinal data



Likert scale::

psychometric response scale primarily used in **questionnaires** to obtain participant's preferences or degree of agreement with a statement (generally 5pt likert scale, also 7pt)

Agreement

- Strongly Agree
- Agree
- Undecided
- Disagree
- Strongly Disagree

Frequency

- Very Frequently
- Frequently
- Occasionally
- Rarely
- Never

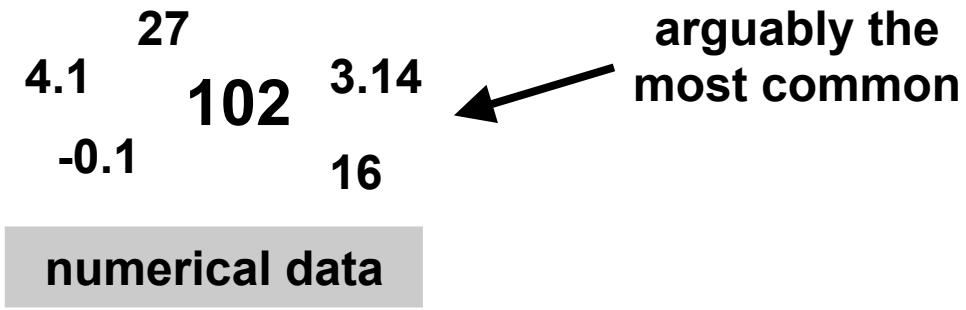
Importance

- Very Important
- Important
- Moderately Important
- Of Little Importance
- Unimportant

Likelihood

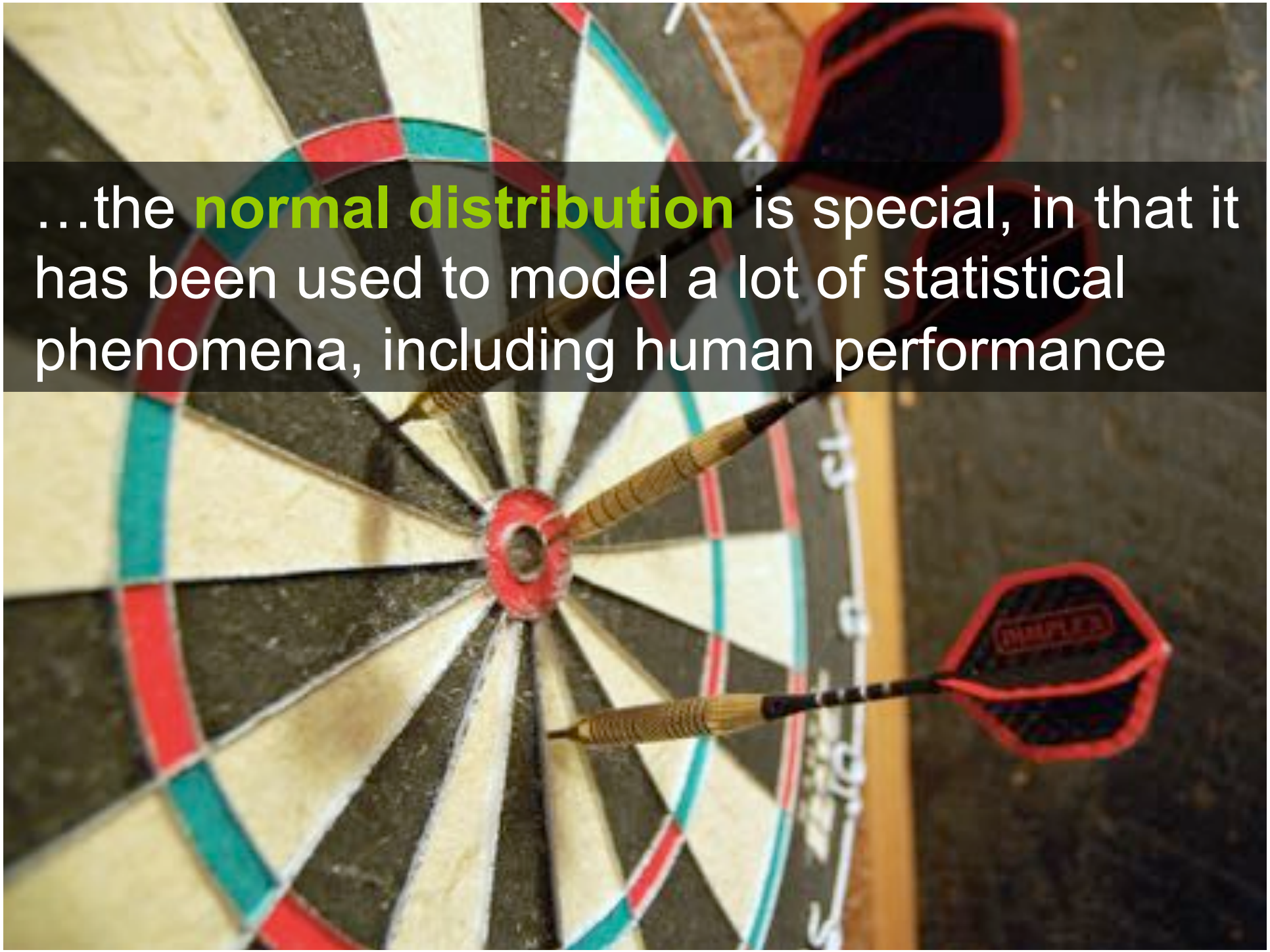
- Almost Always True
- Usually True
- Occasionally True
- Usually Not True
- Almost Never True

visualization class: we saw different type of data



so far we played with numerical data (time, errors)

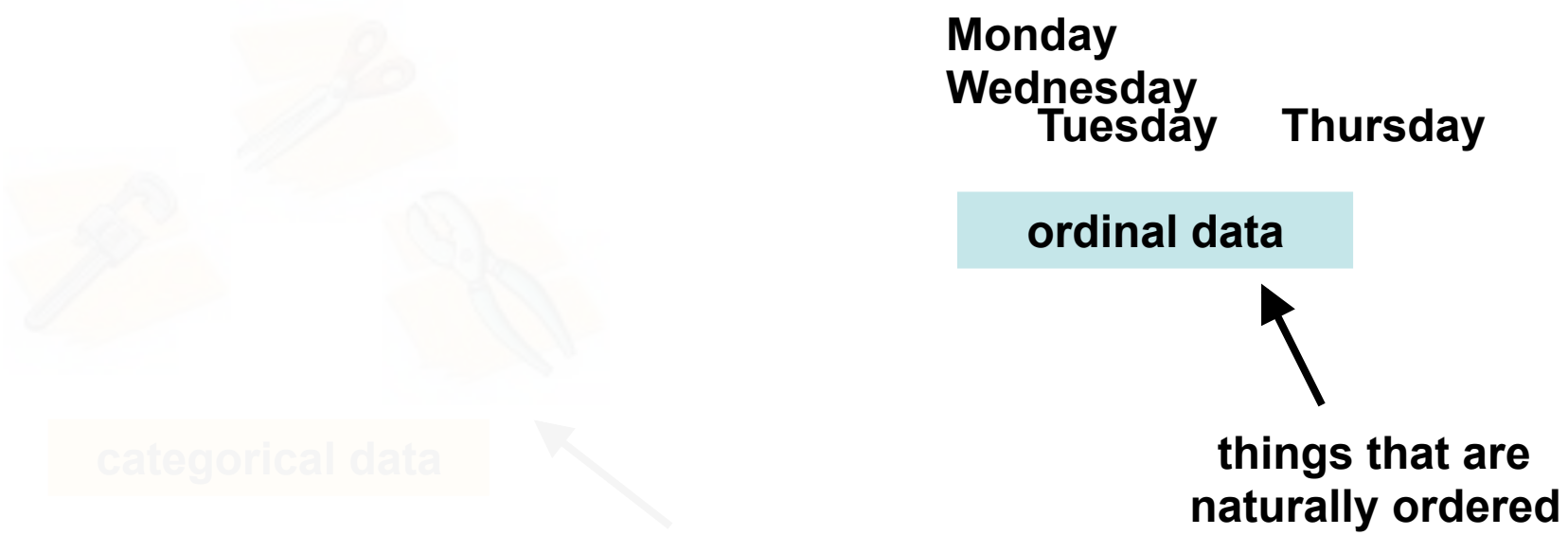
tend to follow curve of normal distributions


…the normal distribution is special, in that it has been used to model a lot of statistical phenomena, including human performance

visualization class: we saw different type of data

you could also deal with ordinal data

but they don't follow a normal distribution



data follow normal distribution = **parametric** statistic tests

otherwise = **non parametric** statistic tests

	Interval/Ratio (Normality assumed)	Interval/Ratio (Normality not assumed), Ordinal	Dichotomy (Binomial)
Compare two unpaired groups	Unpaired t test	Mann-Whitney test	Fisher's test
Compare two paired groups	Paired t test	Wilcoxon test	McNemar's test
Compare more than two unmatched groups	ANOVA	Kruskal-Wallis test	Chi-square test
Compare more than two matched groups	Repeated-measures ANOVA	Friedman test	Cochran's Q test
Find relationship between two variables	Pearson correlation	Spearman correlation	Cramer's V
Predict a value with one independent variable	Linear/Non-linear regression	Non-parametric regression	Logistic regression
Predict a value with multiple independent variables or binomial variables	Multiple linear/non-linear regression		Multiple logistic regression

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end
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