H_o and H_A: Null and alternative hypothesis

H_0: Null hypothesis, assumption that the data show no signal, that nothing has happened.

H_A: Alternative hypothesis, opposite of H_0, assumption that something has happened.

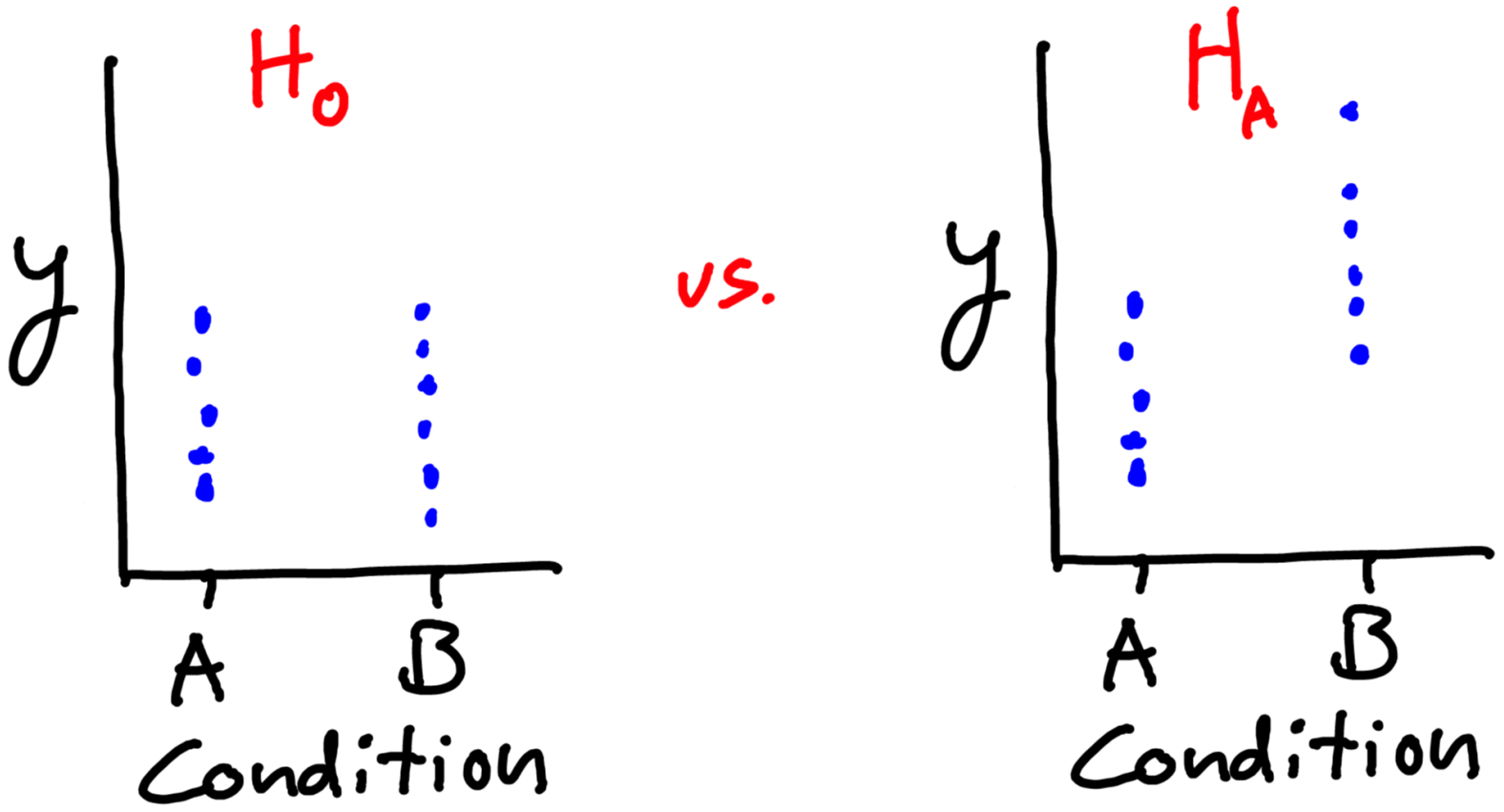
The *P* value tells us how unexpected the data are

P value: Probability to observe the given data under the assumption that H_0 is true

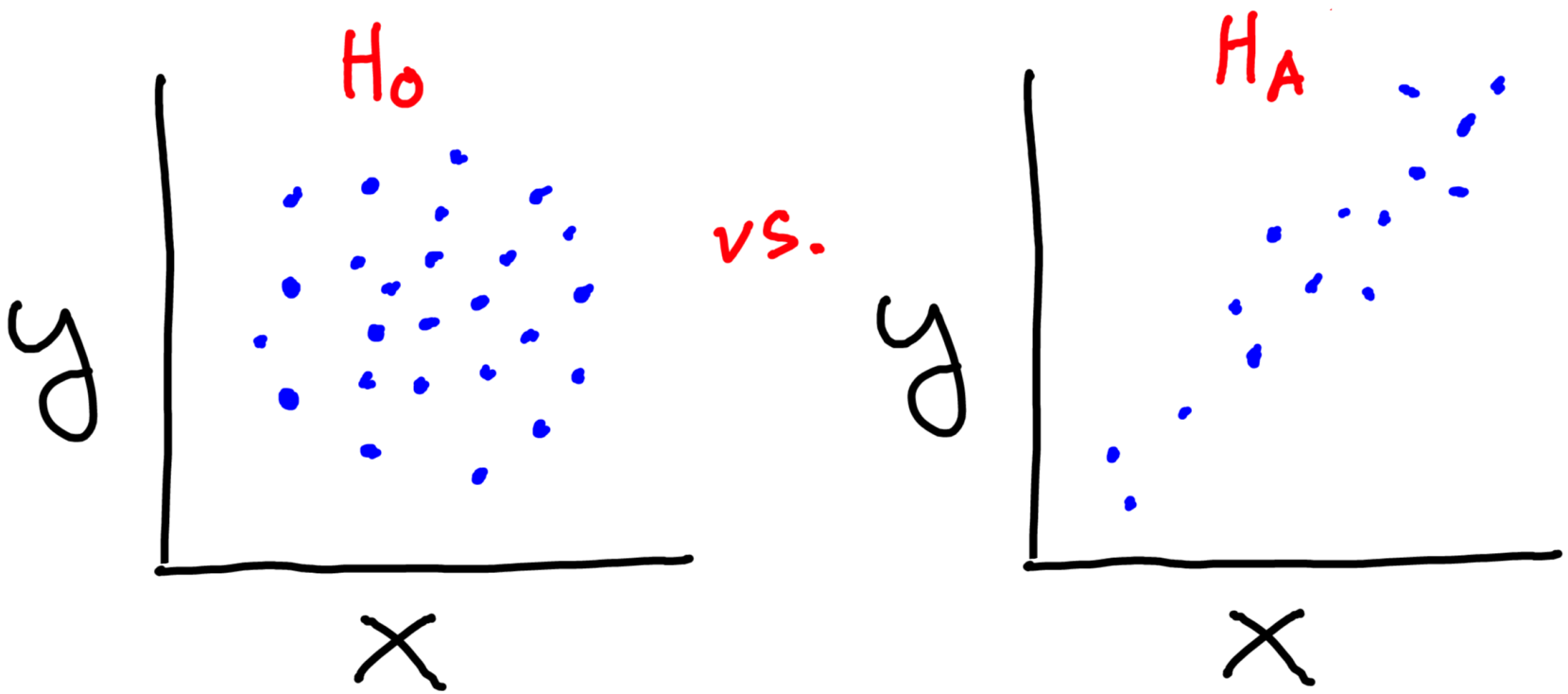
We generally reject H_0 if $P < 0.05$

We **never** accept H_A

t test: Do two groups of numerical measurements have the same mean?



Correlation: Do two numerical variables have a relationship with each other?



Multivariate regression: Which predictors have an effect on the response variable?

Example: