# On how your brain is conspiring against you making good software

Jenna Zeigen • Front-Trends• May 26, 2017

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Humans are "predictably irrational"

- Dan Ariely

"severe and systematic errors"

- Amos Tversky & Daniel Kahneman

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software is about PEOPLE

Design by Amy Lynn Taylor (@amydearest)

&yet

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1. On Being Logical

2. On Bugs and Debugging

3. On Planning Your Work

4. On Others' Code

5. On Open Offices

6. On Knowing Your Worth

7. On Assembling a Team

On Being Logical

Humans aren't great logical thinkers.
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On Being Logical

All P are M.
All S are M.
Therefore, all S are P.
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On Being Logical

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On Being Logical

But, we get better when reasoning about concrete examples!

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On Being Logical

| Beer | 22 | Soda | 16 |

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On Bugs and Debugging

"Debugging is twice as hard as writing a program in the first place"

- Brian Kernighan

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On Bugs and Debugging
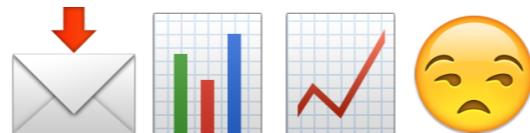
We tend to interpret and favor information to confirm our pre-existing beliefs.

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On Bugs and Debugging

"2, 4, 6"

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On Bugs and Debugging

We even distrust evidence that goes against our prior beliefs.

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On Bugs and Debugging

We often have no idea
how close we are
to solving a problem.

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Metcalfe 1986; Metcalfe & Weibe. 1987

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On Bugs and Debugging

We have a tendency to be rigid
in how we approach a problem.
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On Bugs and Debugging

Breaks are important!

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Smith & Blankenship 1989, 1991

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On Bugs and Debugging

Creativity is just about having
all the right ingredients.
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On Others' Code

Again, we tend to think about problems in fixed ways.

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On Others' Code

We prefer things that we have made or assembled ourselves.
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On Planning Your Work

We're bad at estimating how long it will take to do something.
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On Planning Your Work

We think bad things
are more likely to happen to others.
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On Planning Your Work

We are motivated more
by losses than by gains.

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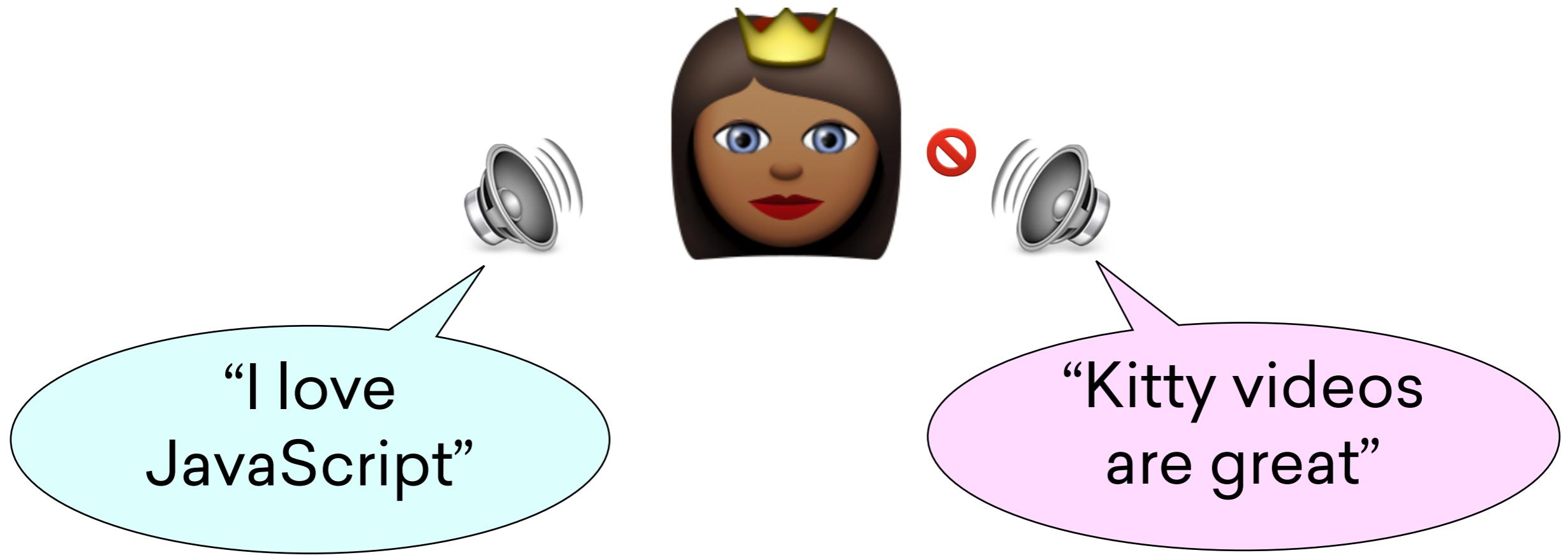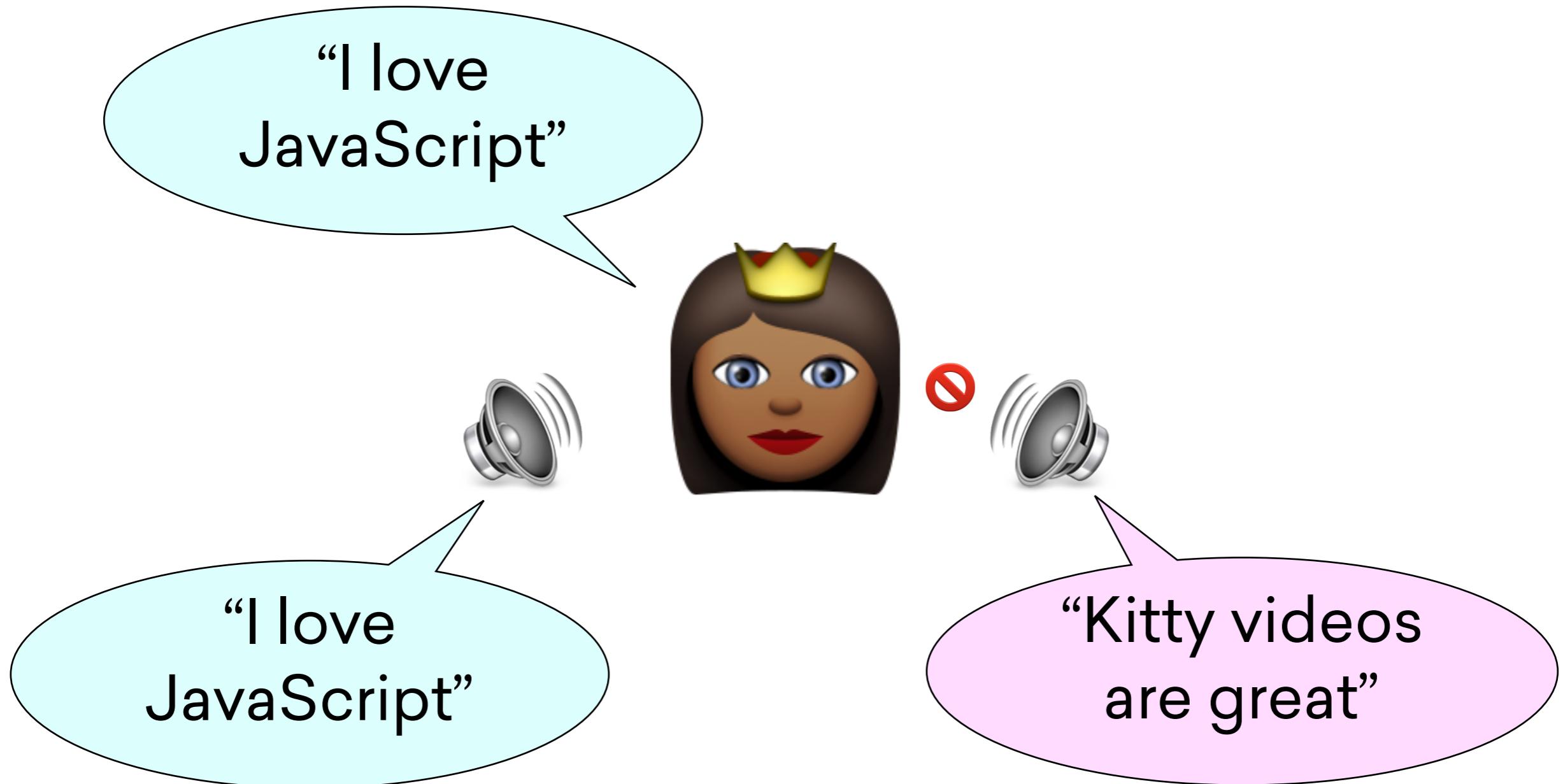
On Open Offices

We're *actually* pretty good at filtering out unwanted things...

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On Open Offices

On Open Offices

...but we're not totally oblivious to it.

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On Open Offices

Selective attention requires both ignoring and paying attention.

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On Open Offices

But what about that
🔥 juicy conversation🔥
happening next to you?
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On Open Offices

We're helpless to the processing power of our brain.
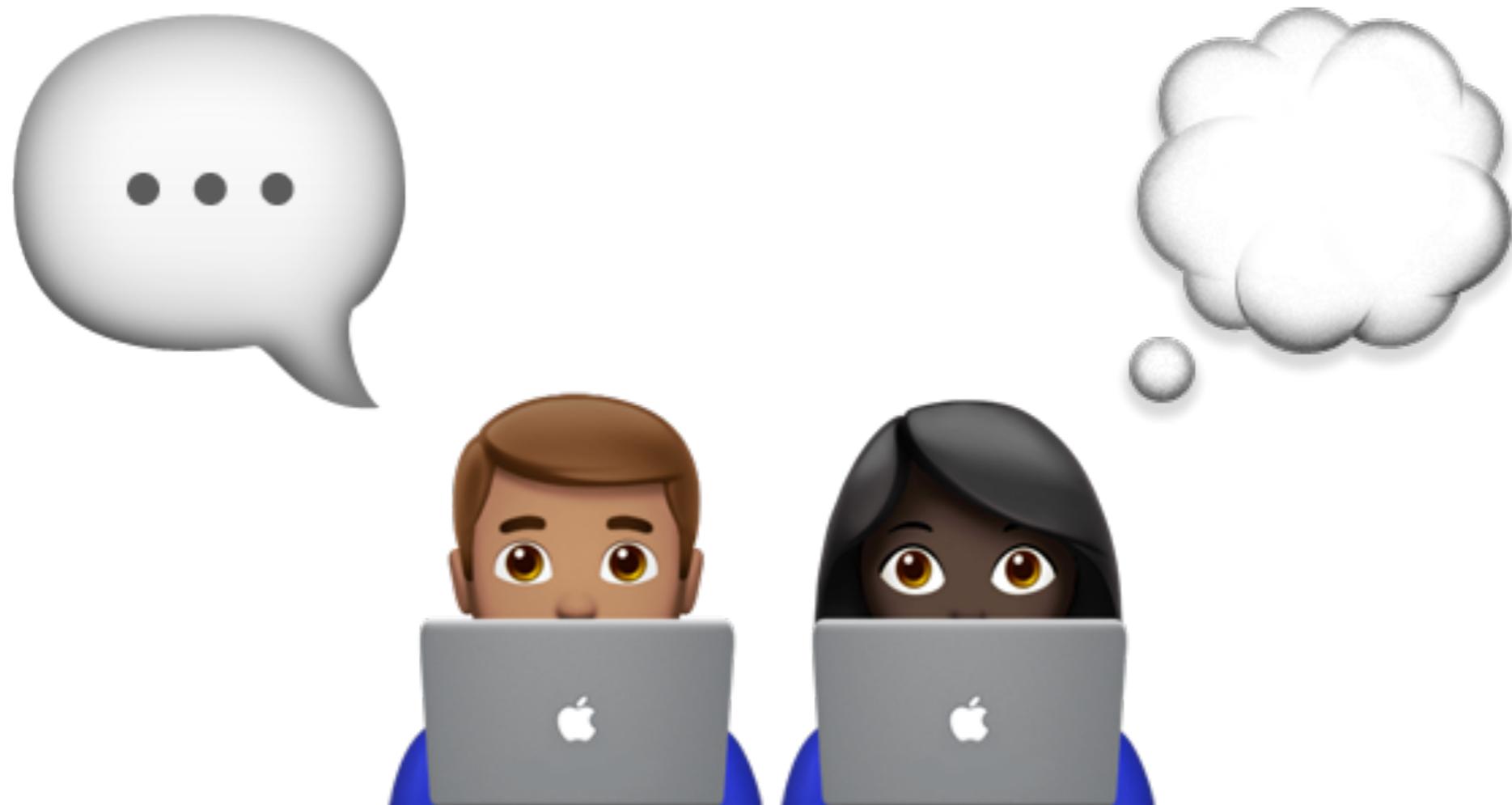
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On Open Offices

BLUE PURPLE RED
GREEN PURPLE
GREEN

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On Open Offices

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On Open Offices

BLUE PURPLE RED GREEN PURPLE GREEN

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On Open Offices

BLUE PURPLE RED
GREEN PURPLE
GREEN

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On Knowing Your Worth

Unskilled people think they are better at tasks than they actually are.

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On Knowing Your Worth

We tend to overestimate our own skills and abilities compared to others.

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On Knowing Your Worth

Skilled people underestimate their abilities and think tasks that are easy for them are easy for others.

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On Knowing Your Worth

Skilled people sometimes
feel their accomplishments
are the result of luck or deception
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On Assembling a Team

We favor members
of our own in-group.

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On Assembling a Team

We tend to attribute situations
to others' character
rather than to external factors.

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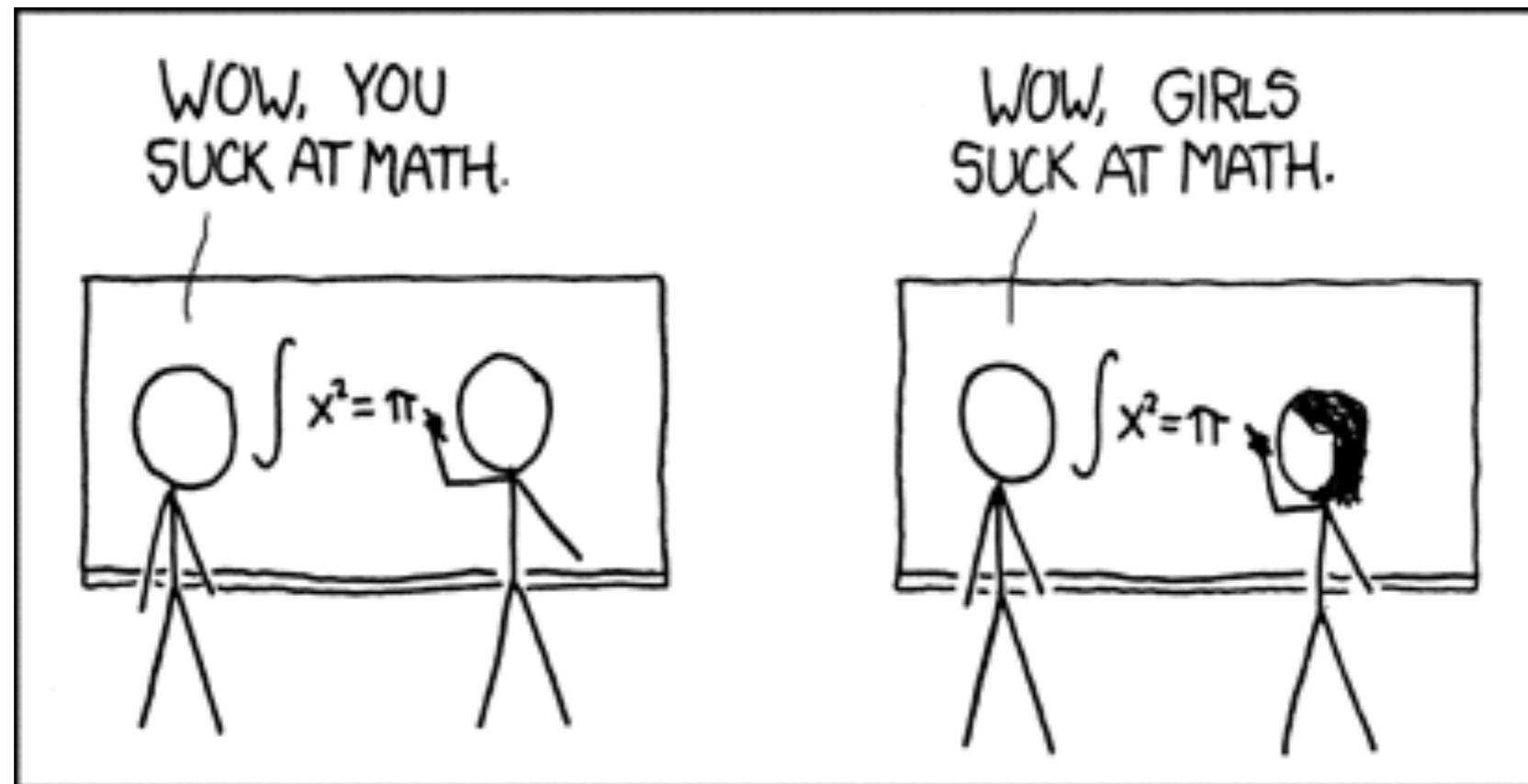
On Assembling a Team

We tend to believe that attributes of a group member reflect the entire group.
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On Assembling a Team

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On Assembling a Team

We rely on examples
that come to mind
when evaluating something.

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On Assembling a Team

We assume group members will resemble the prototype for that group, and vice versa.

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On Assembling a Team

In some cases, we ignore probabilities in favor of focusing on details.

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On Assembling a Team

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On Assembling a Team

On Getting Past This

On Getting Past This

On Getting Past This

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On Getting Past This

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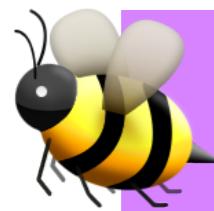
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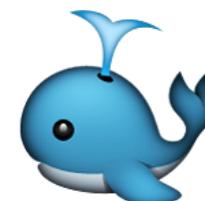
Thanks!

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