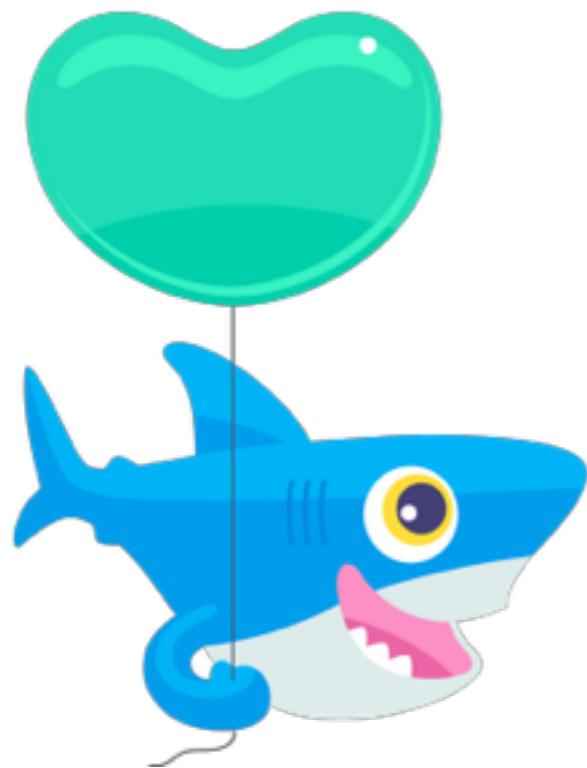


On how your brain is conspiring against you making good software

Jenna Zeigen • RevolutionConf • June 1, 2017

Engineering
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jenna.is/at-revconf





Humans are
“predictably irrational”

- Dan Ariely

“severe and
systematic errors”

- Amos Tversky & Daniel Kahneman





software is
about PEOPLE



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.



On Being Logical

All P are M.

All S are M.

Therefore, all S are P.



On Being Logical

People will endorse a
👎 bad argument 👎
if it leads to something
they believe to be true.

On Being Logical

A

6

J

7

On Being Logical

But, we get better when
reasoning about
concrete examples!



On Being Logical

Beer

22

Soda

16

On Bugs and Debugging

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

- Brian Kernighan



On Bugs and Debugging

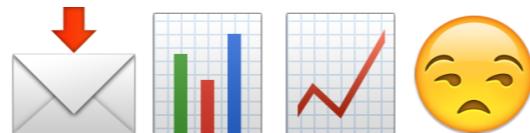
We tend to interpret and favor information to confirm our pre-existing beliefs.

On Bugs and Debugging

“2, 4, 6”

On Bugs and Debugging

We even distrust evidence that goes against our prior beliefs.



On Bugs and Debugging

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



On Bugs and Debugging

We have a tendency to be rigid
in how we approach a problem.



On Bugs and Debugging

We block solutions
based on prior experiences.



On Bugs and Debugging

Breaks are important!



On Bugs and Debugging

Creativity is just about having
all the right ingredients.



On Others' Code

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



On Others' Code

We prefer things that we have
made or assembled ourselves.



On Others' Code

We value things higher
simply because we
already own them.



On Planning Your Work

We're bad at estimating how long it will take to do something.



On Planning Your Work

We think bad things
are more likely to happen to others.



On Planning Your Work

We are motivated more
by losses than by gains.

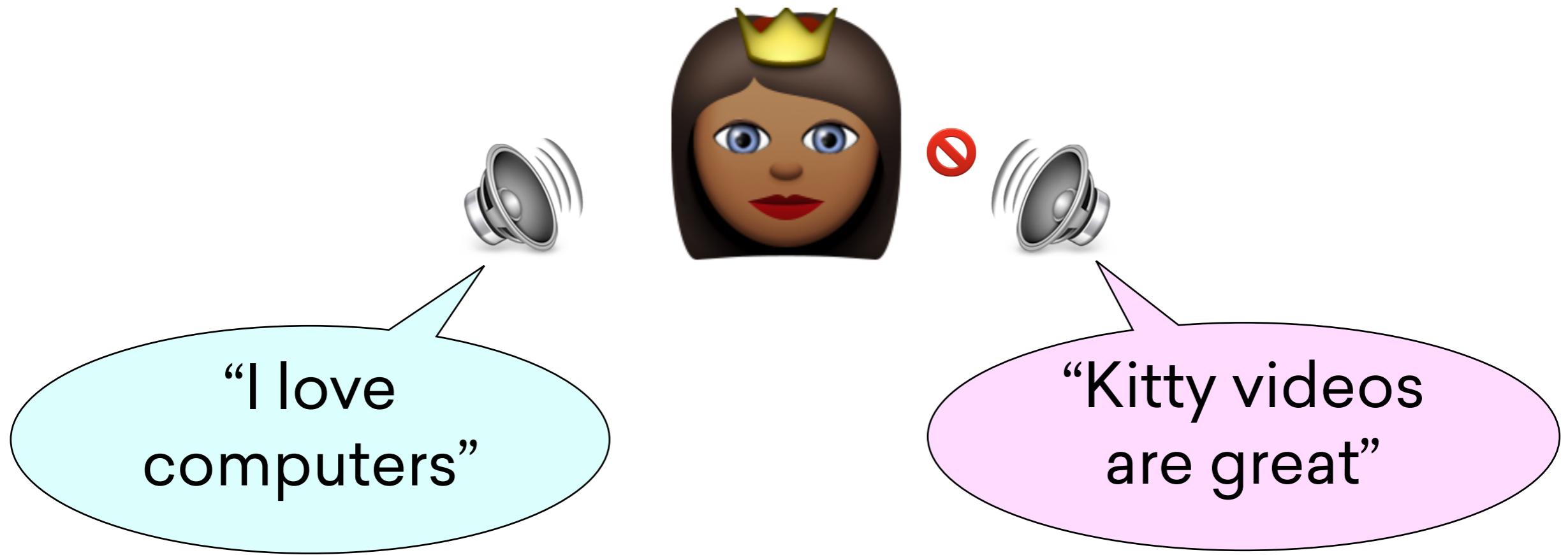


On Open Offices

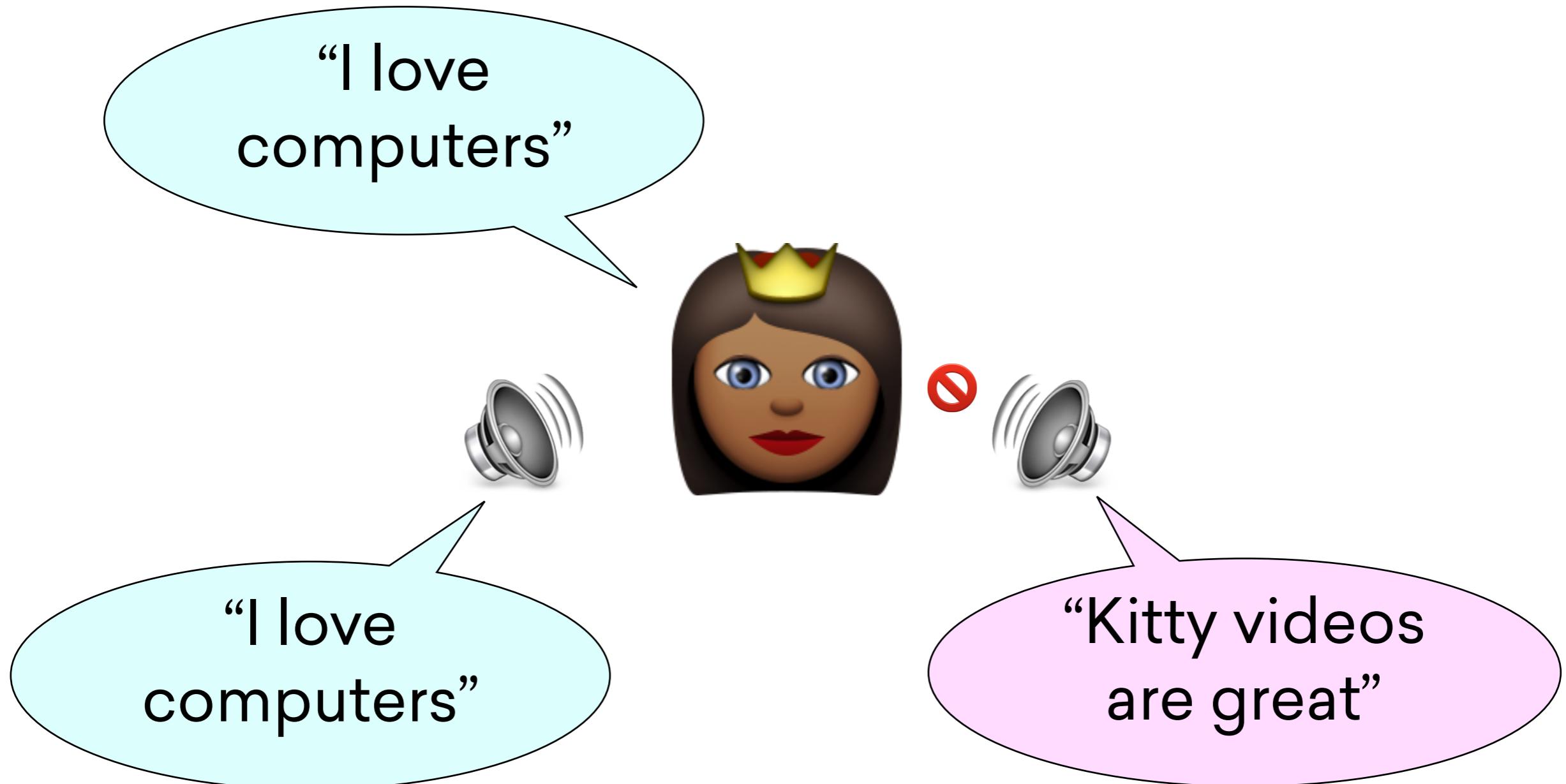
We're *actually* pretty good at filtering out unwanted things...



On Open Offices



On Open Offices



On Open Offices

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



On Open Offices

Selective attention requires both ignoring and paying attention.



On Open Offices

But what about that
🔥 juicy conversation 🔥
happening next to you?!?!



On Open Offices

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



On Open Offices

BLUE PURPLE RED
GREEN PURPLE
GREEN

On Open Offices

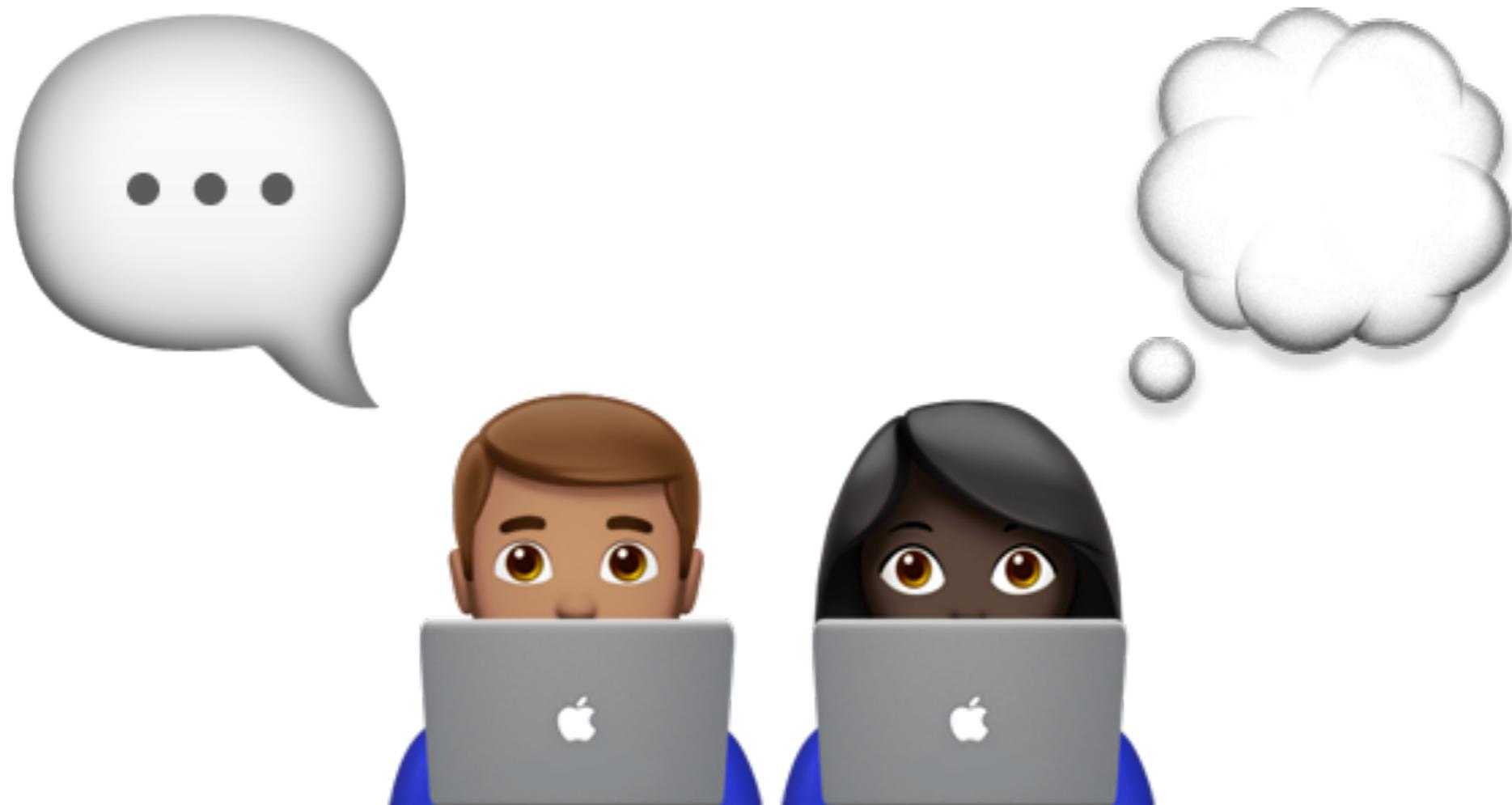


On Open Offices

BLUE PURPLE RED
GREEN PURPLE
GREEN

On Open Offices

BLUE PURPLE RED
GREEN PURPLE
GREEN



On Knowing Your Worth

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



On Knowing Your Worth

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



On Knowing Your Worth

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



On Knowing Your Worth

Skilled people sometimes
feel their accomplishments
are the result of luck or deception



On Assembling a Team

We favor members
of our own in-group.



On Assembling a Team

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

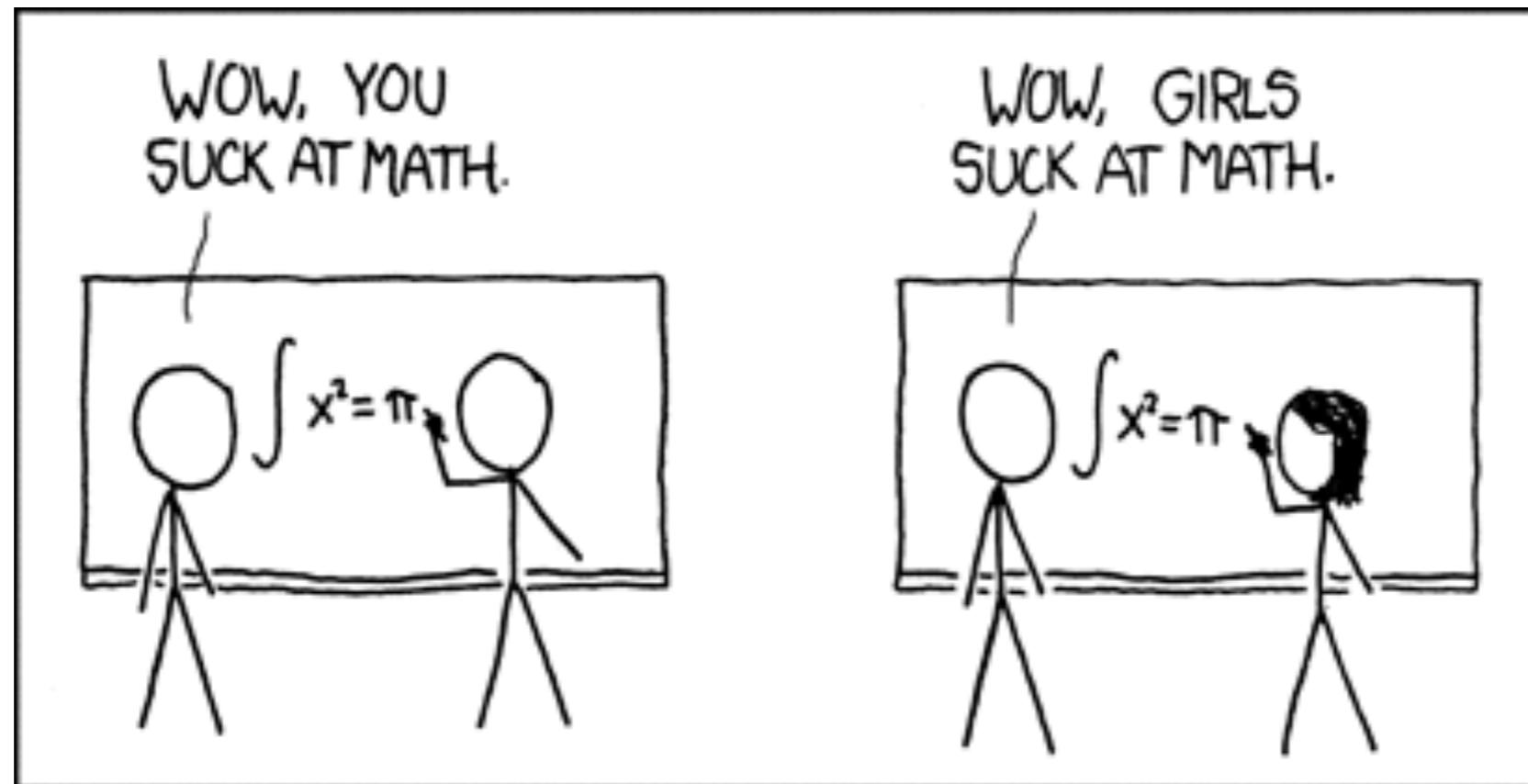


On Assembling a Team

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



On Assembling a Team



On Assembling a Team

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



On Assembling a Team

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



On Assembling a Team

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



On Assembling a Team

We prefer the status quo.



On Assembling a Team

We're liable to uphold the status quo,
even when it hurts other people.



On Assembling a Team



On Assembling a Team



On Getting Past This



On Getting Past This



Thinking Fast
(System 1)

On Getting Past This



Thinking Fast
(System 1)



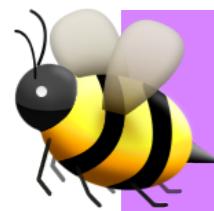
Thinking Slow
(System 2)

On Getting Past This



On Getting Past This





Thanks!



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