

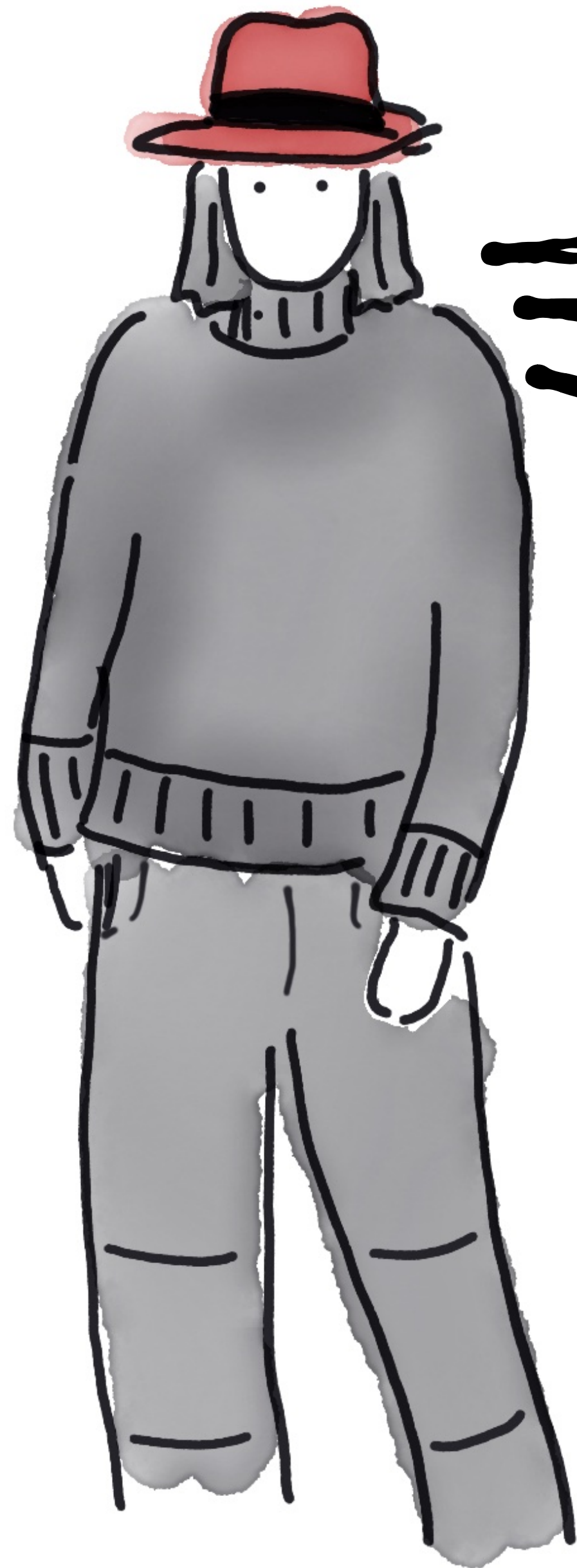
**is efficiency  
a good  
thing?**



Holly Cummins

12 June, 2024

**StaffPlus London**



let's

2007

2022

quarkus is  
wonderfully efficient!

your team more  
efficient!

senior principal software engineer  
helping to build Quarkus



“I’d like to be more inefficient.”

**none** us of us say this

what is efficiency - Google Search

https://www.google.com/search?q=what+is+efficiency&sca\_esv=572214004&source=hp&ei=plMIZdXu 133%

Google what is efficiency

Images In economics In business In management In Minecraft Videos Ratio Productive Operational All filters

About 3,360,000,000 results (0.37 seconds)

Dictionary  
Definitions from Oxford Languages · Learn more

efficiency  
/ɪˈfɪʃnsi/  
noun

the state or quality of being efficient.  
"greater energy efficiency"

Similar: organization order

- an action designed to achieve efficiency  
plural noun: **efficiencies**  
"the reforms will lead to efficiencies and savings"
- TECHNICAL**  
the ratio of the useful work performed by a machine or in a process to the total energy expended or heat taken in.  
"the boiler has an efficiency of 45 per cent"

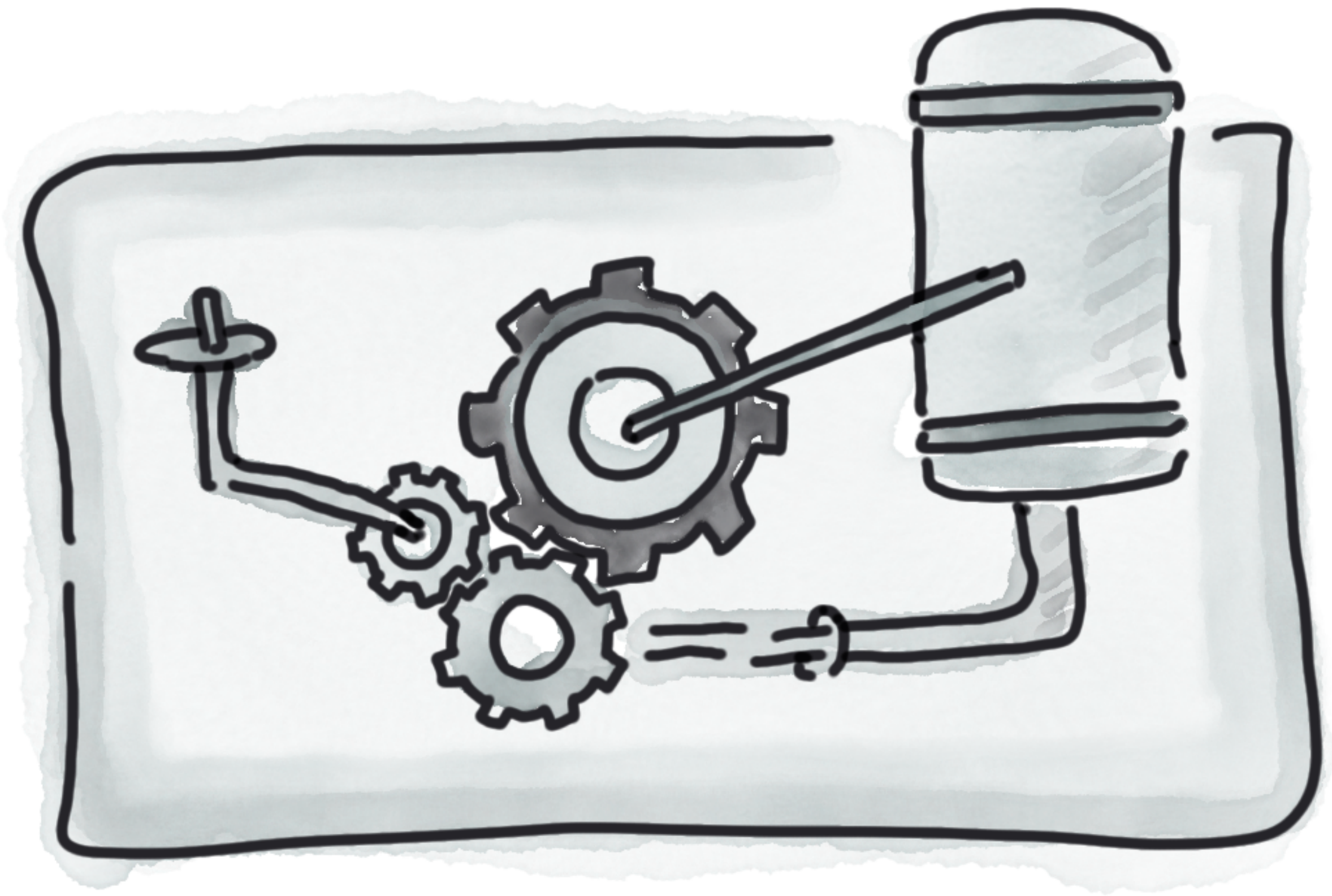
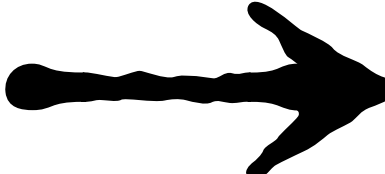
More to ask :  
Who invented efficiency?

Efficiency

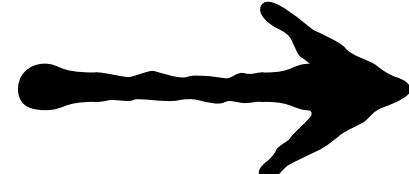


1700s

energy



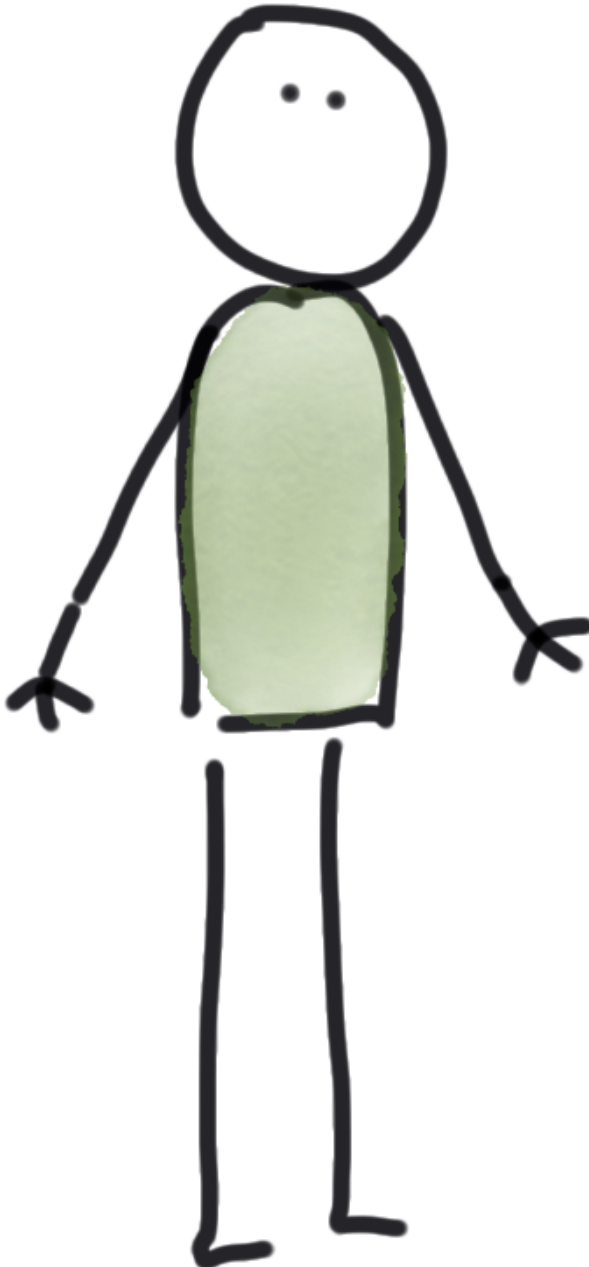
machine



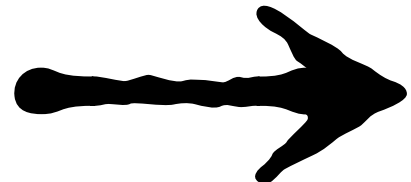
useful  
energy

1890s

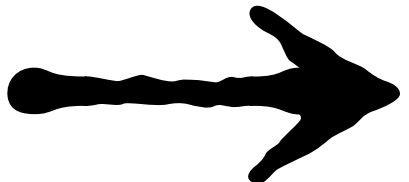
"interaction at scale"



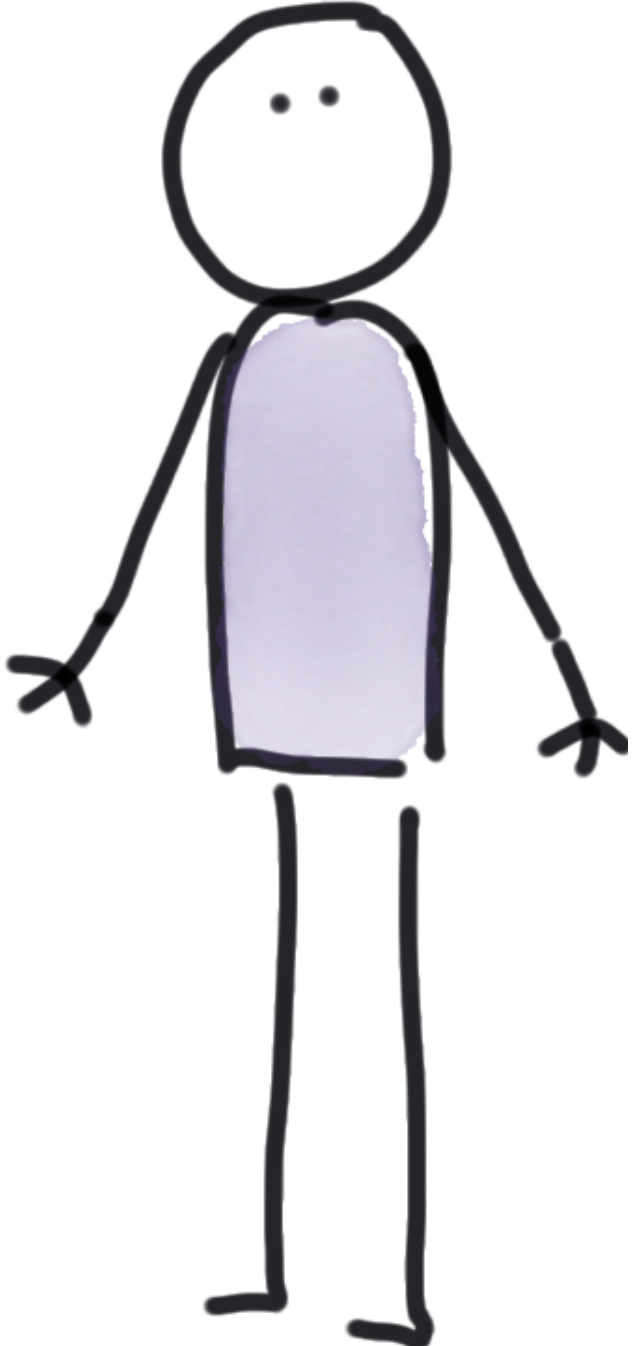
time  
money



processes



value





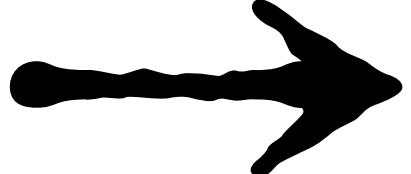
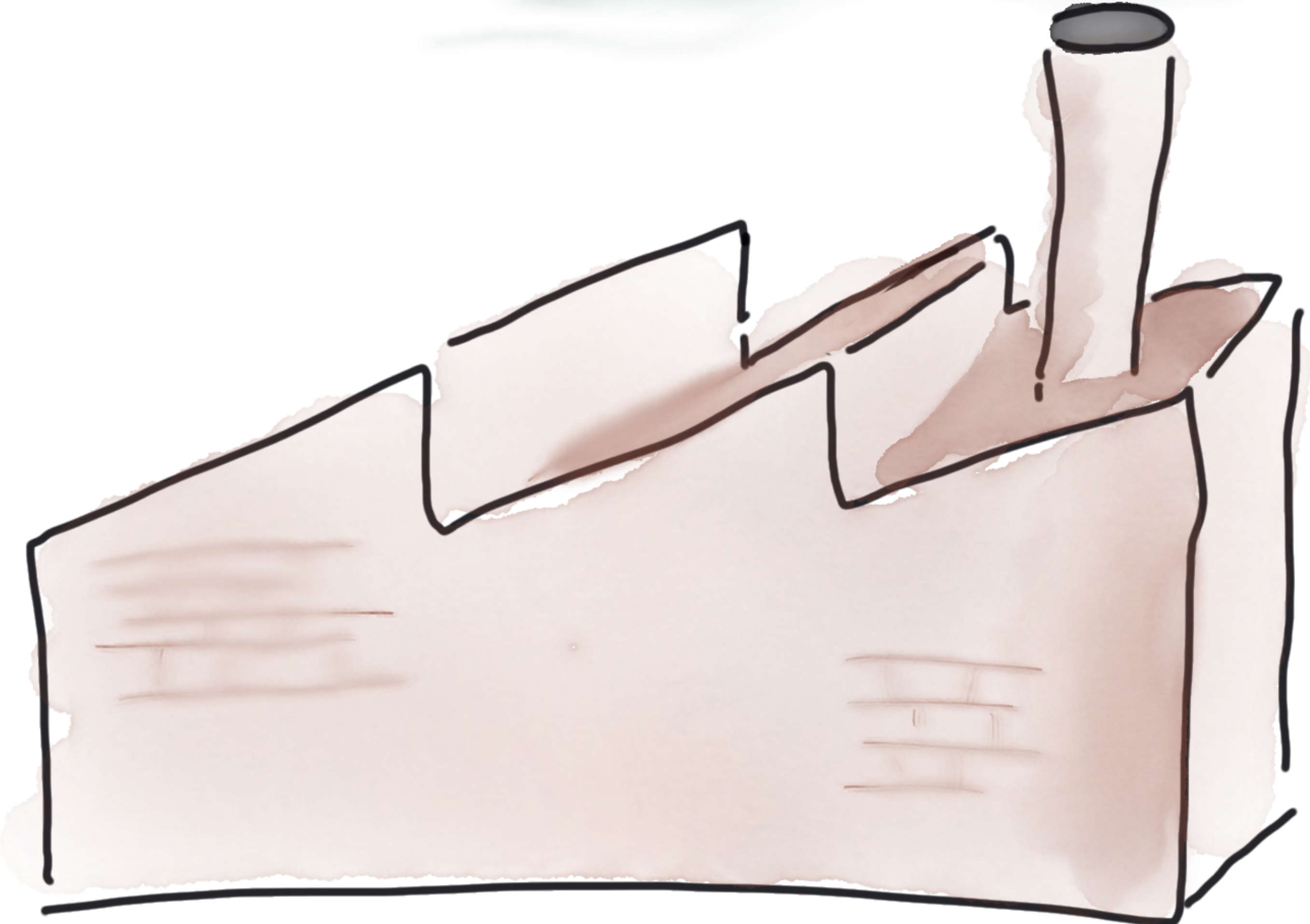
1900s

lean

value



value



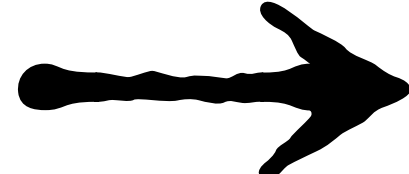
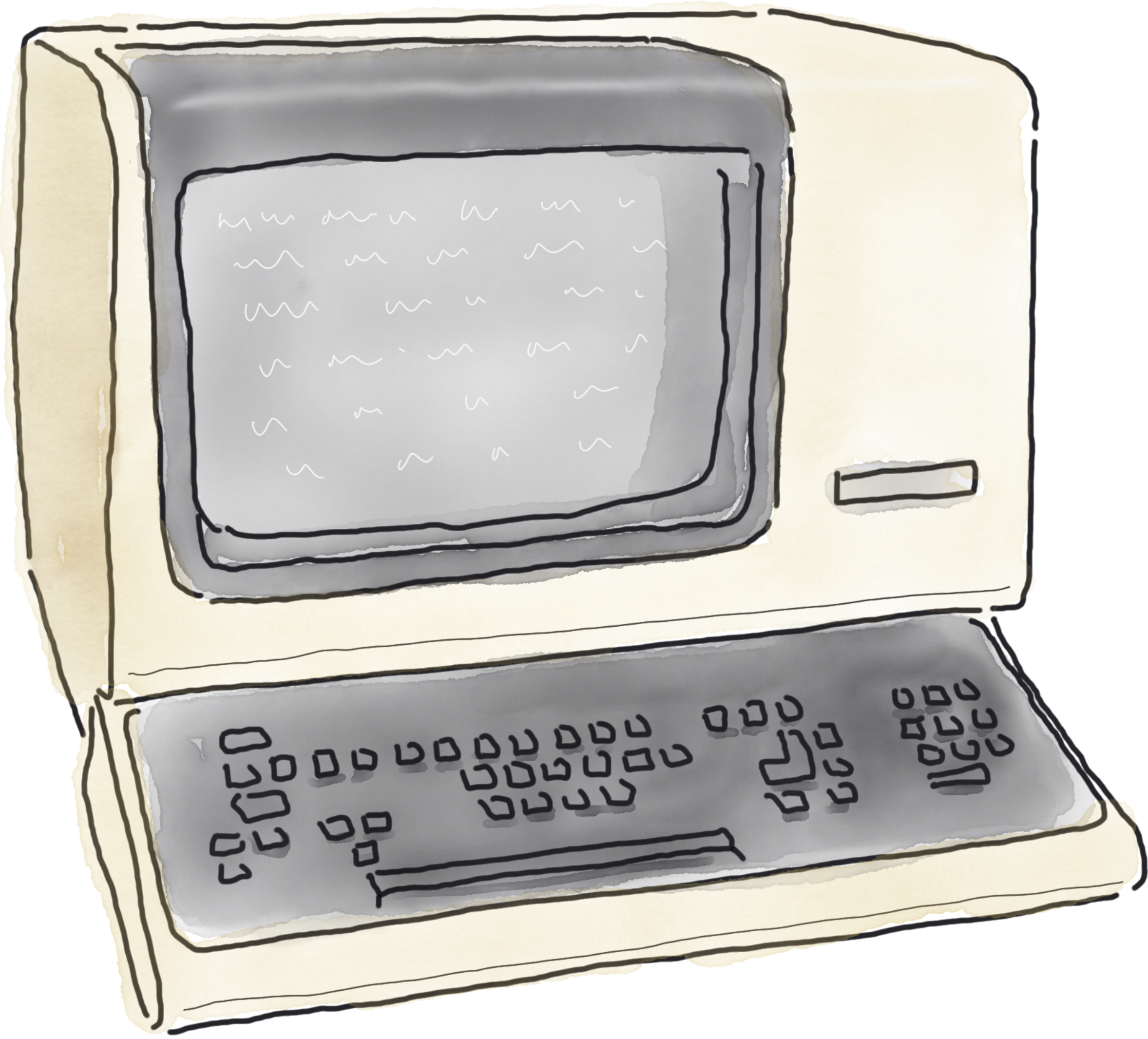
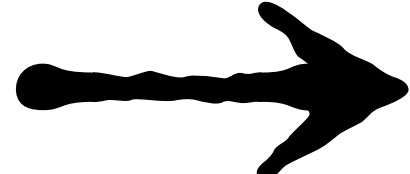
value

manufacturing



1960s

time  
electricity  
hardware



answers

software



consider **all** kinds of efficiency

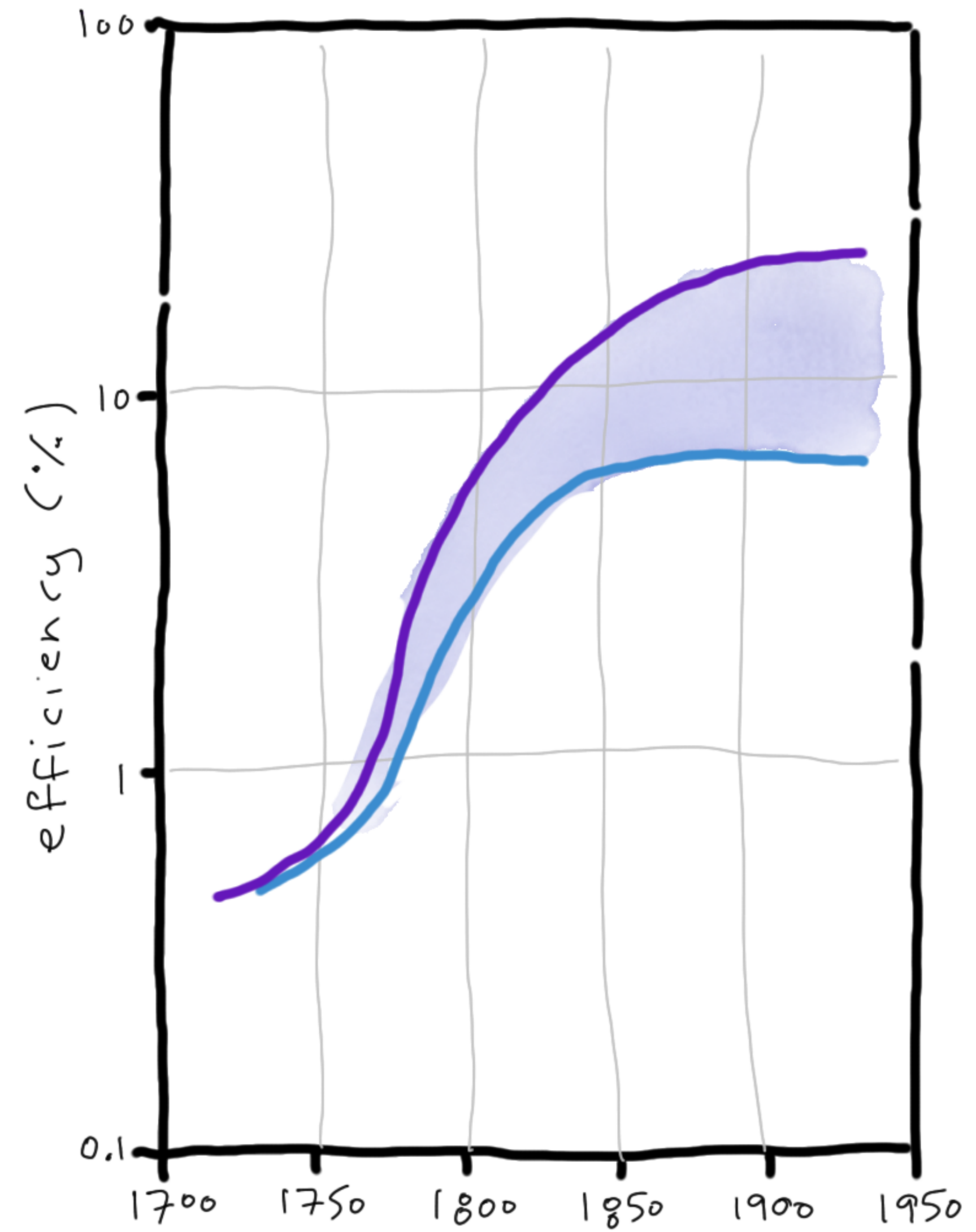
- processes
- production
- software



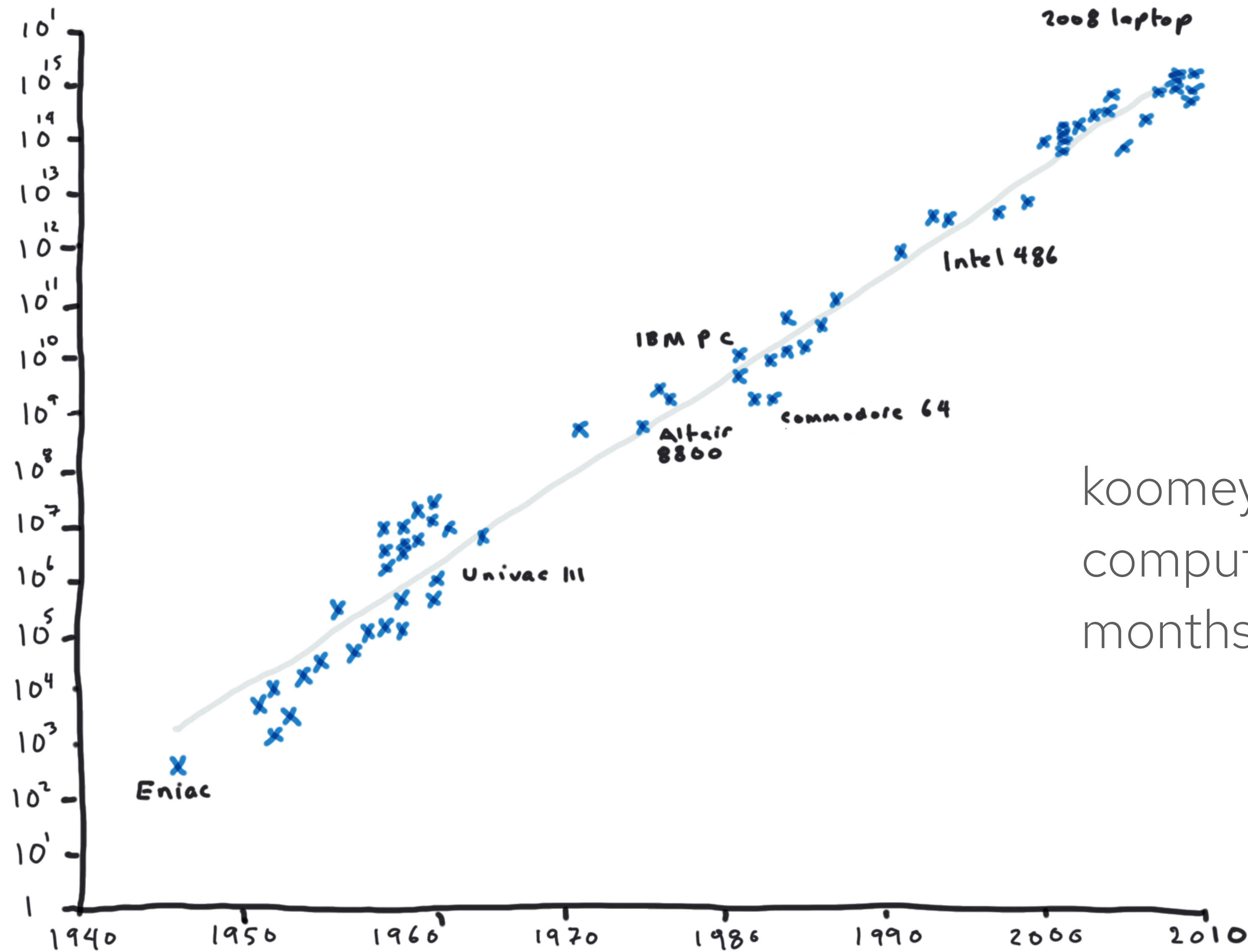
after 200 years, we're getting good at efficiency



# steam engine efficiency

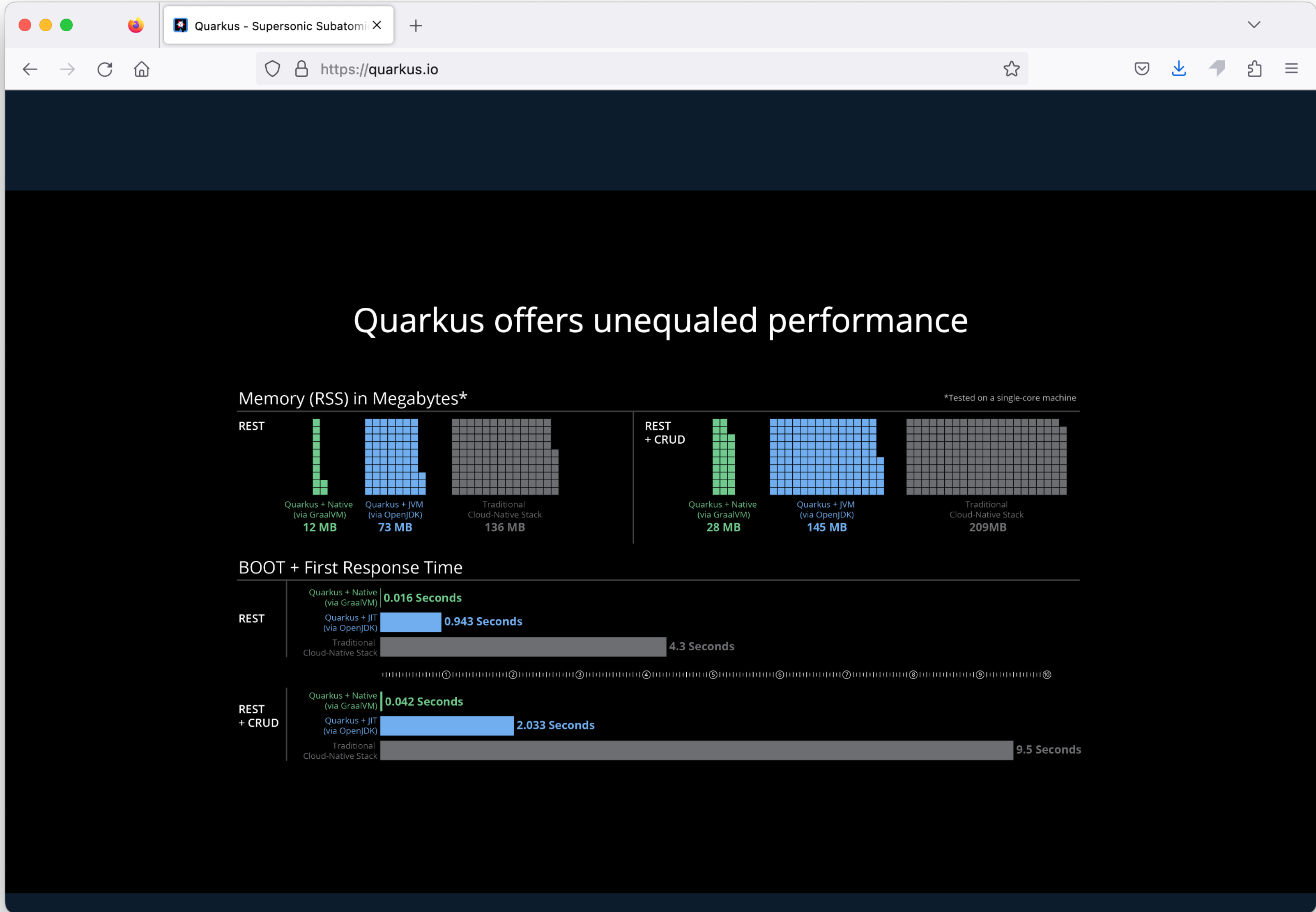


# computer efficiency



koomey's law: the energy efficiency of computers doubles roughly every 18 months

software  
efficiency



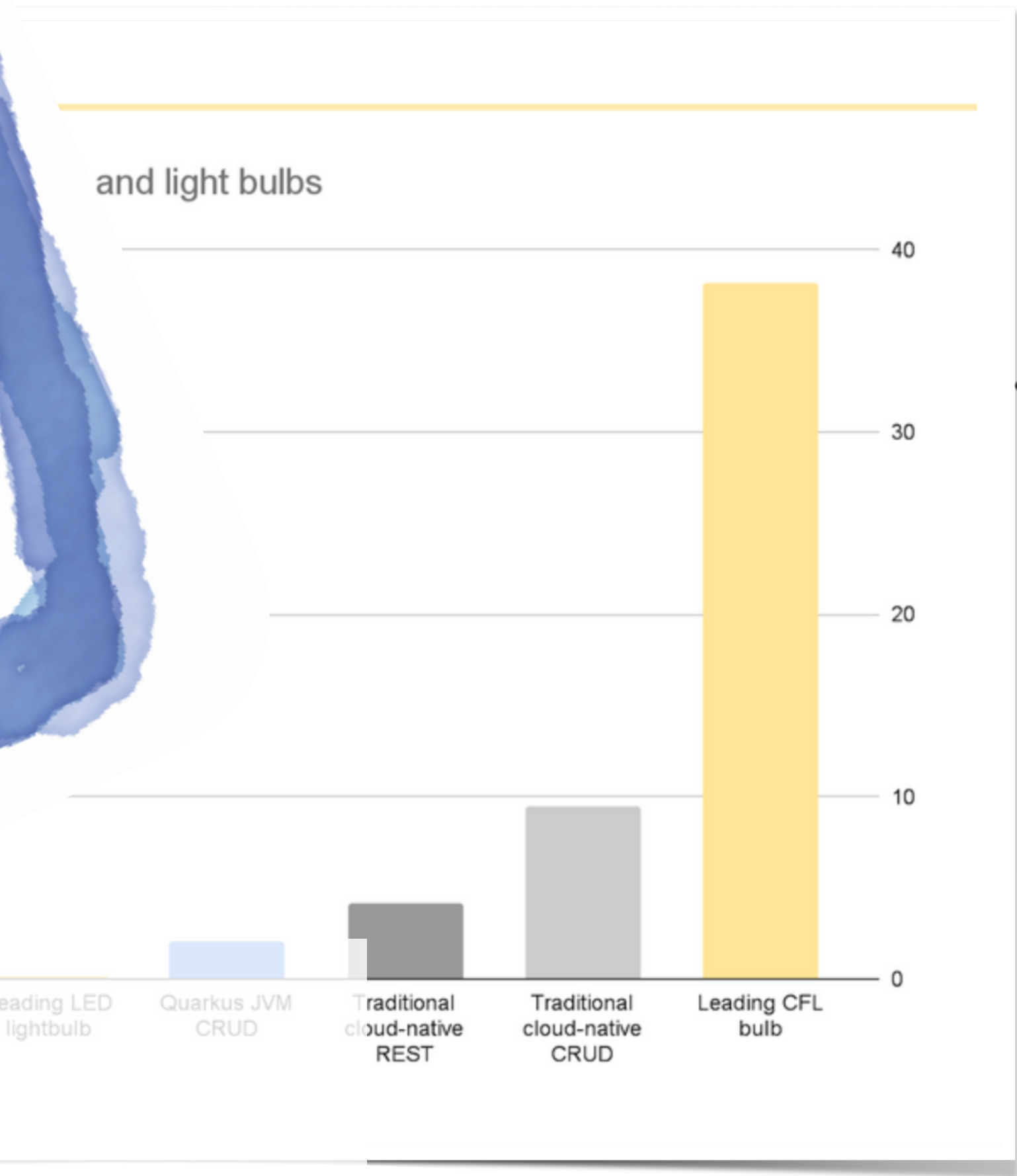


starting a java application in 2010

slower than making tea



# Starting a java application in 2023



quarkus



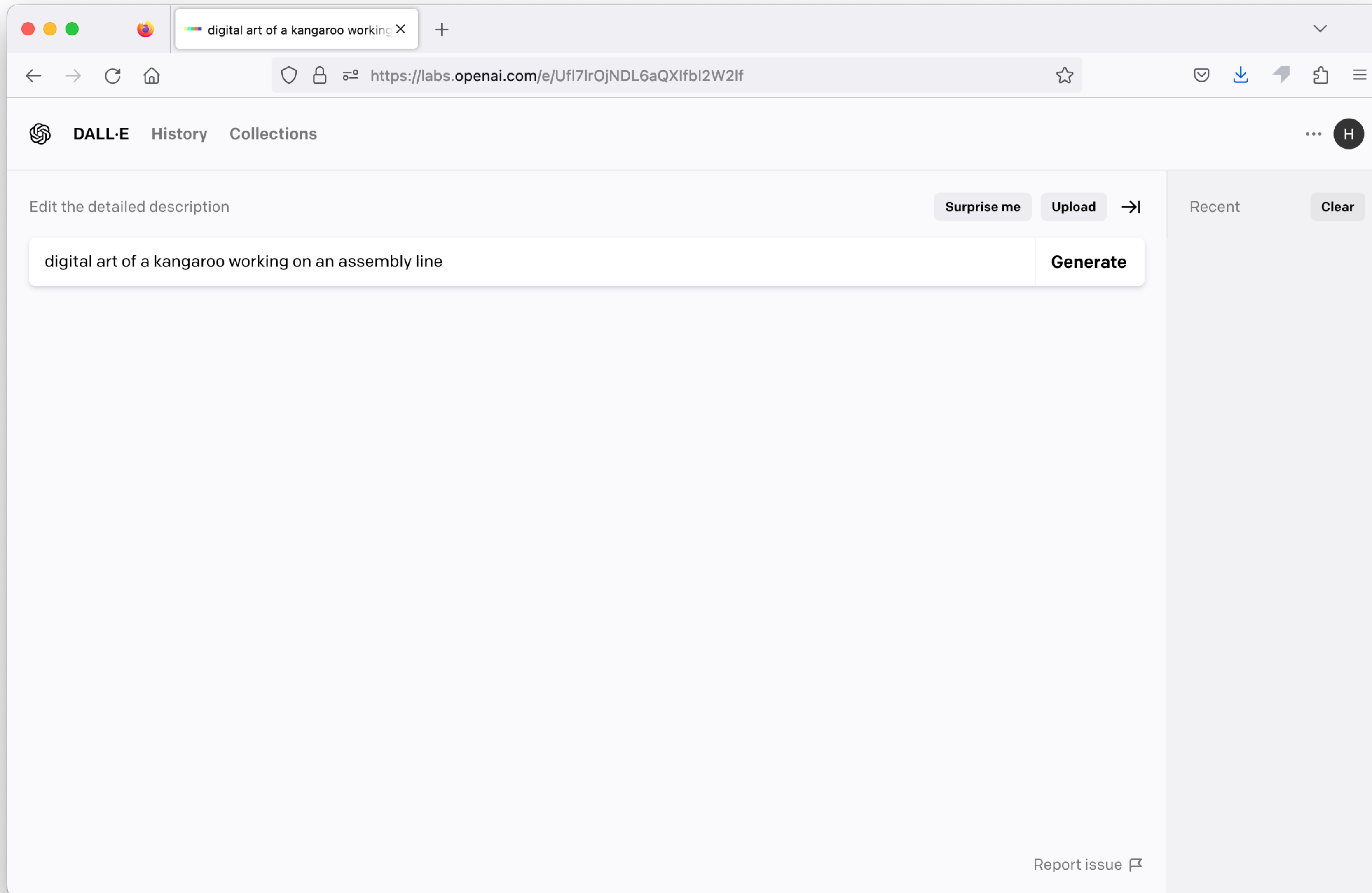
faster than a lightbulb

we have automated **all** the things

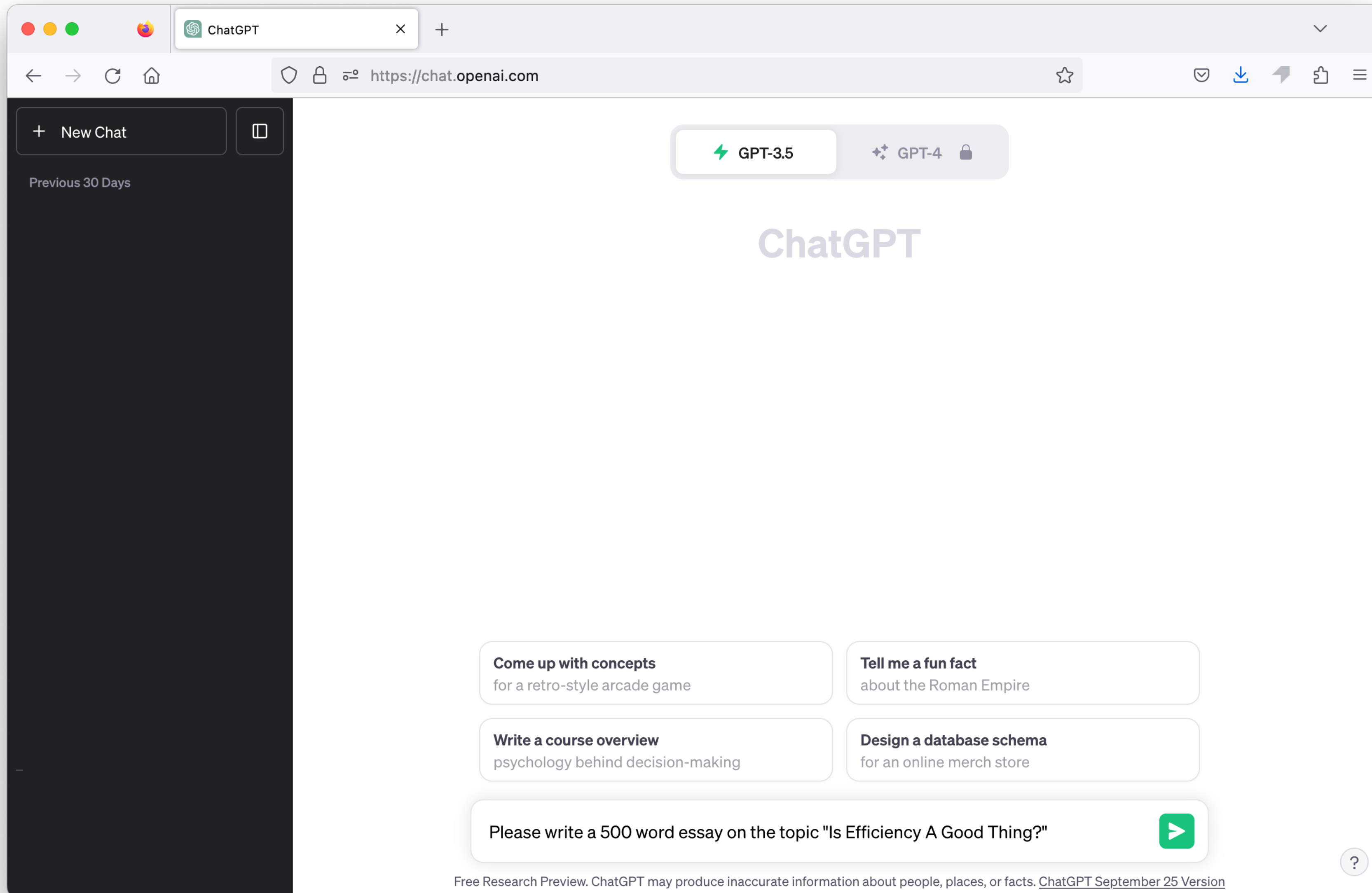


infrastructure as code

... **us** as code







The screenshot shows a browser window with the URL <https://chat.openai.com/c/5f410c39-0fb8-4c11-98f3-c4893798205d>. The chat interface displays an essay titled "Is Efficiency A Good Thing?". The text of the essay is as follows:

Title: Is Efficiency A Good Thing?

Efficiency, often defined as the ability to accomplish a task with minimal waste of resources, has become a cornerstone of modern society. It permeates almost every aspect of our lives, from the way we manufacture goods to how we manage our daily routines. The pursuit of efficiency has undeniably yielded numerous benefits, but it also raises important questions about its impact on individuals, society, and the environment. In this essay, we will explore the multifaceted nature of efficiency and discuss whether it is inherently a good thing.

Efficiency holds undeniable advantages in various domains. In the business world, for instance, efficiency drives productivity and reduces operational costs, leading to higher profits and economic growth. In manufacturing, it allows us to produce more goods with less raw material, reducing waste and environmental impact. In healthcare, efficient processes can save lives by ensuring timely treatments and accurate diagnoses. In these contexts, efficiency is undoubtedly a positive force, improving our quality of life and advancing human progress.

Efficiency also plays a crucial role in addressing some of the most pressing global challenges, such as climate change and resource depletion. By optimizing energy consumption and reducing waste, we can mitigate the adverse effects of human activities on the environment. Sustainable practices often emphasize efficiency as a means to achieve ecological balance and preserve the planet for future generations. In this regard, efficiency is not just a good thing but a moral imperative.

A text box highlights the sentence: "By optimizing energy consumption and reducing waste, we can mitigate the adverse effects of human activities on the environment." An arrow points from a callout box to this highlighted text.

all my cool ideas were apparently not very original!

Send a message

Regenerate

Free Research Preview. ChatGPT may produce inaccurate information about people, places, or facts. [ChatGPT September 25 Version](#)

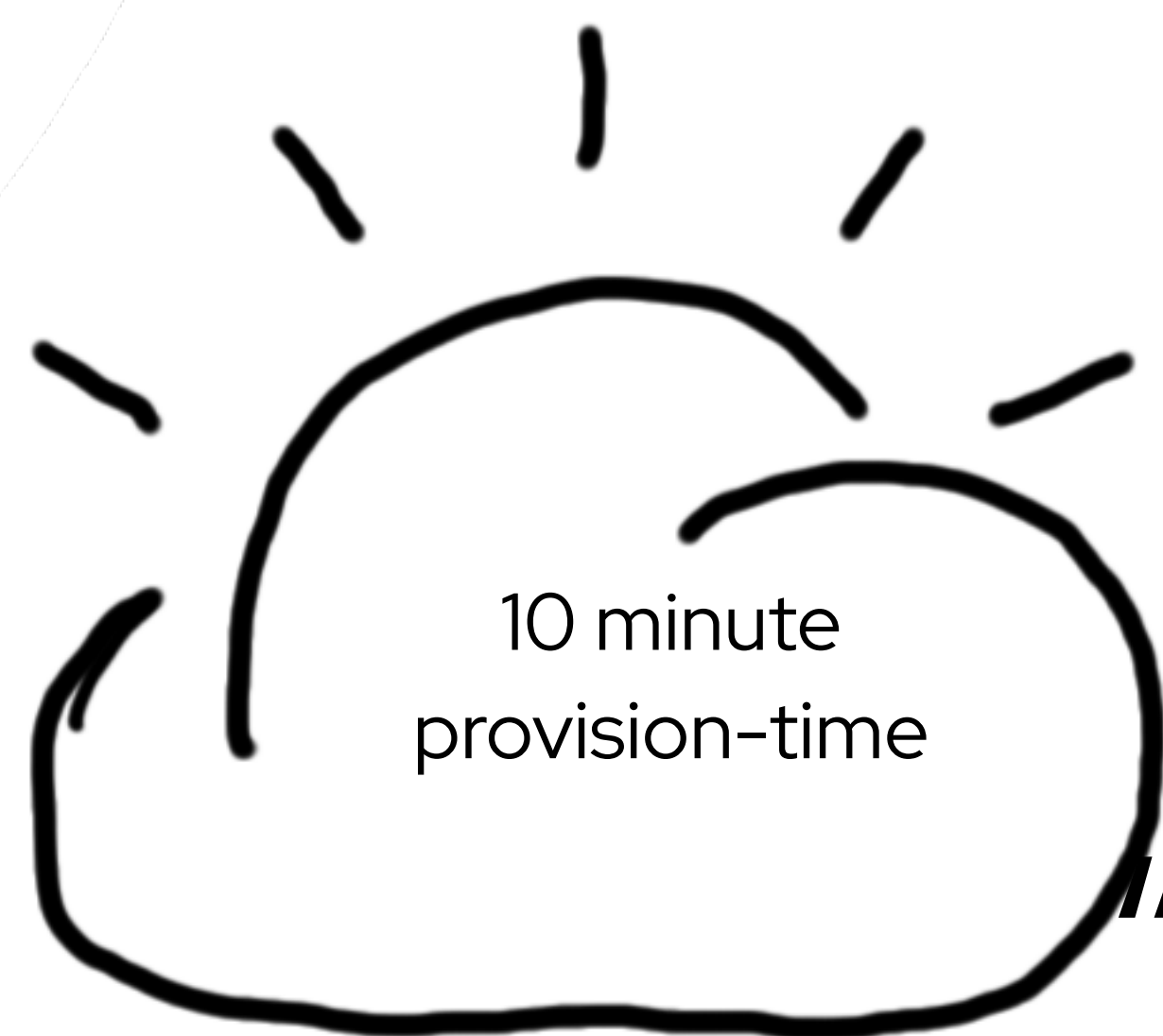


**but.**

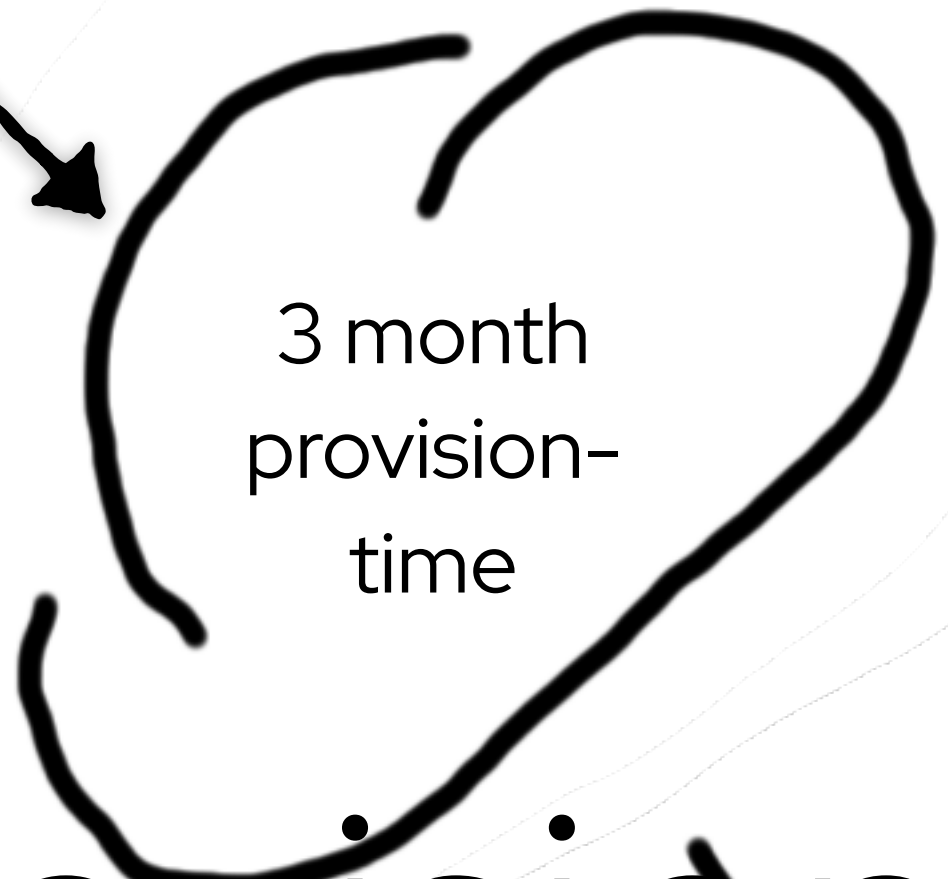
even after 200 years, we are not  
always very good at efficiency

process inefficiency

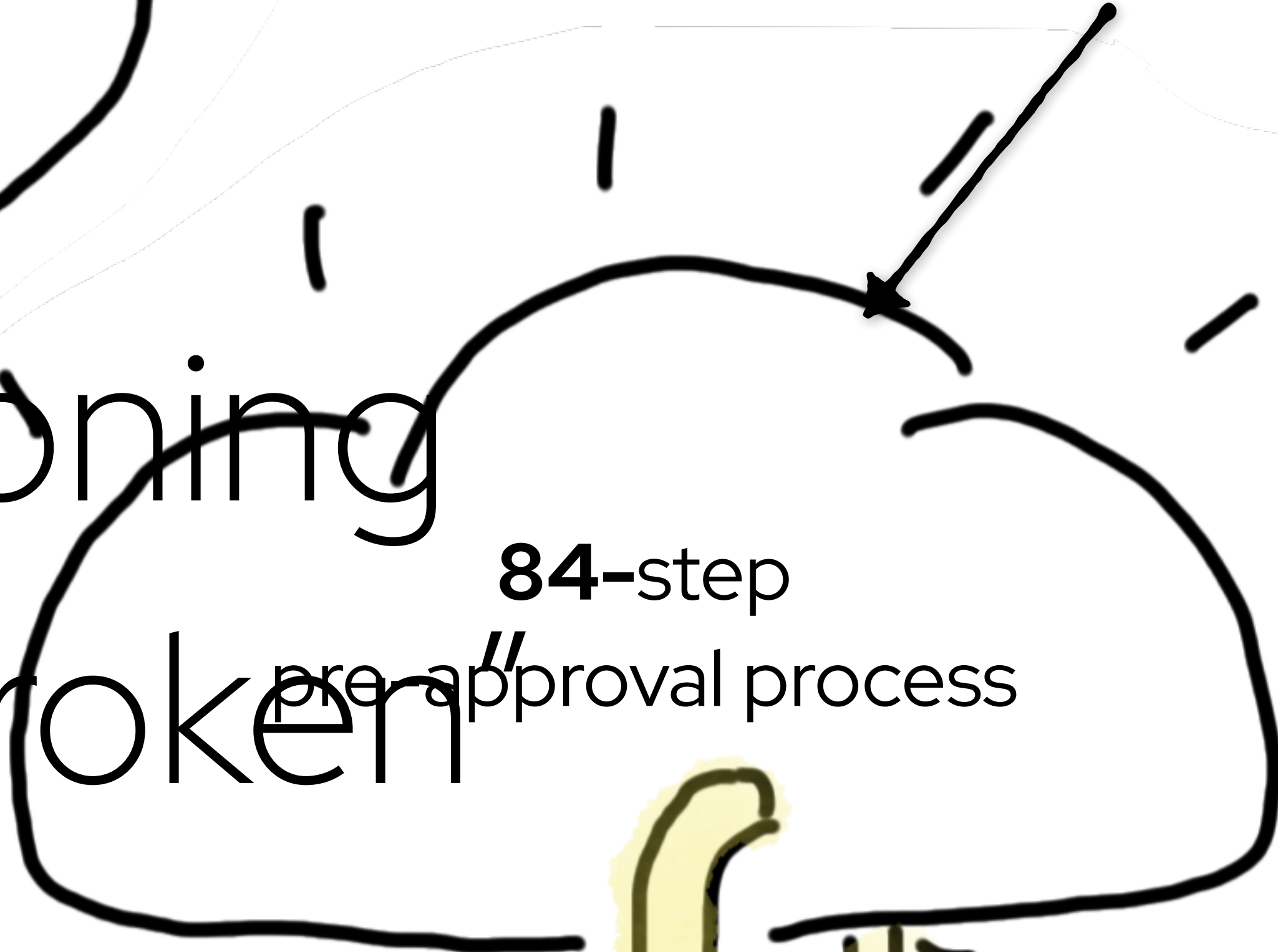




what the client thought they'd got



the reason



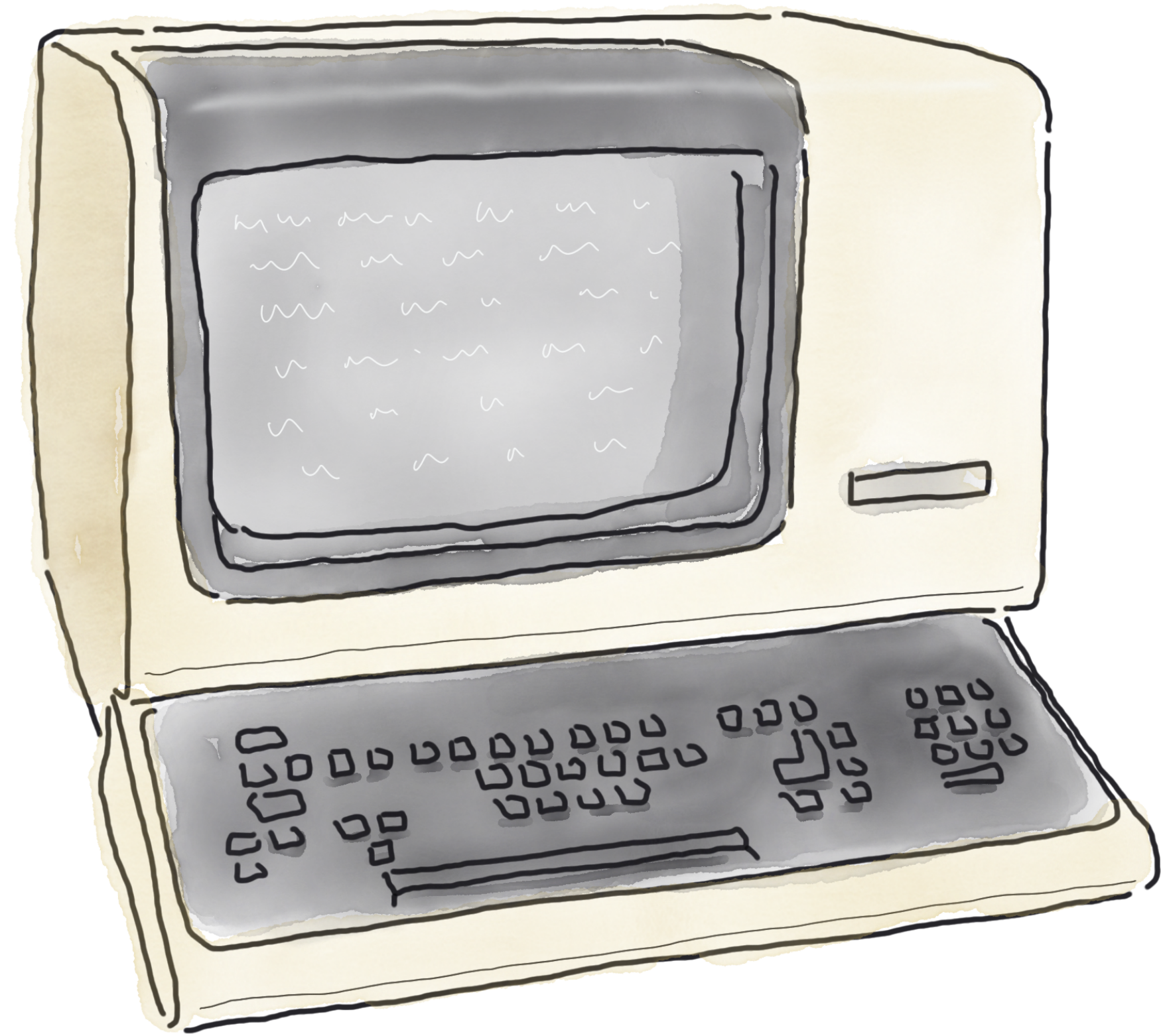
"this provisioning software is broken"

what we sold





software inefficiency





modern web is so inefficient it is **useless** for part of its audience



“my heart sank ... our new feature failed to load because of poor internet connectivity”

waste everywhere



# zombie servers

25%

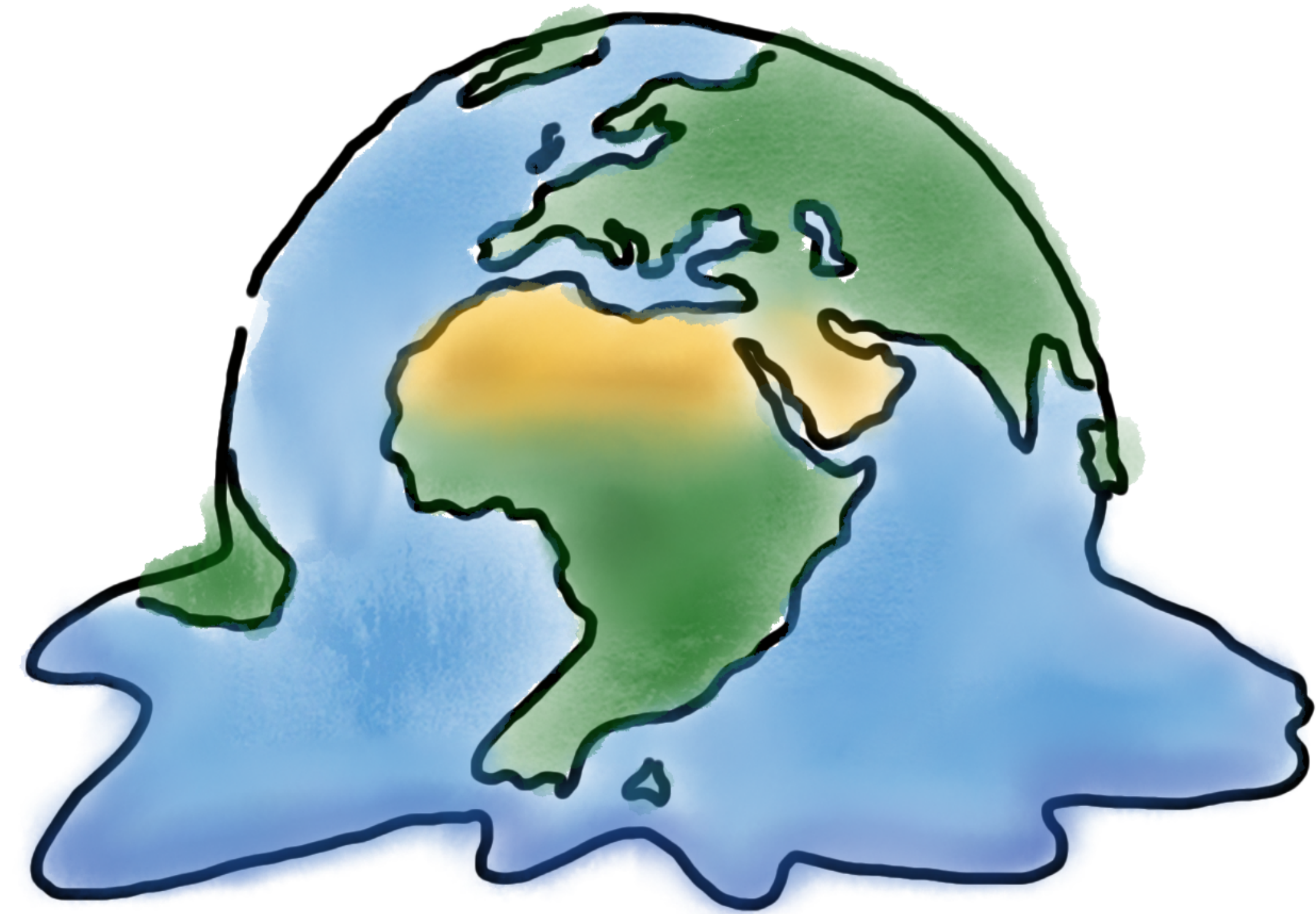
of 16,000 servers  
doing **no** useful work



the average server:

**12 - 18%**

of capacity





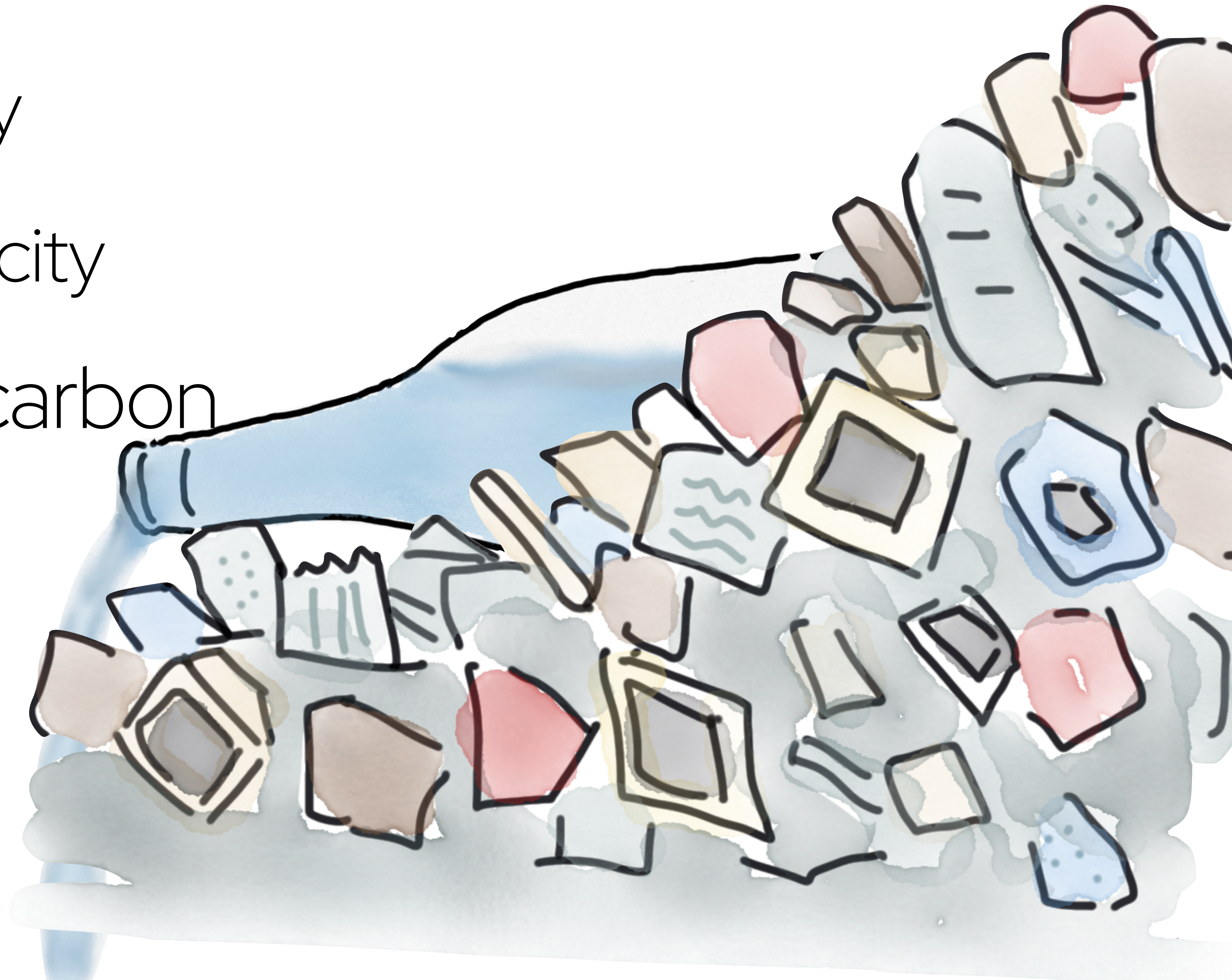
it's not just money

it's not just electricity

it's embodied carbon

it's water

it's e-waste





we **cling on** to inefficiency

our amazing product makes  
your team


ooh, no, definitely  
don't want that

and it's yours for only  
wait, what?

if we became more  
efficient our headcount  
would be reduced

...

my status  
would be lower

A hand-drawn speech bubble with a thick black outline. The bubble is roughly oval-shaped with a tail pointing towards the bottom-left corner. Inside the bubble, the text is centered and reads: "if I tell my boss about an inefficiency, what if my friends get laid off because less staff are needed after it's fixed?".

if I tell my boss about an  
inefficiency, what if my friends get laid  
off because less staff are needed after  
it's fixed?



# drive out inefficiency

- stupid processes
- bloated software
- terrible resource utilisation



make sure incentive structures do not **reward** inefficiency

once you've eliminated the obvious waste ...  
go further

“There is nothing so useless as doing efficiently that which should not be done at all.”

Peter Drucker

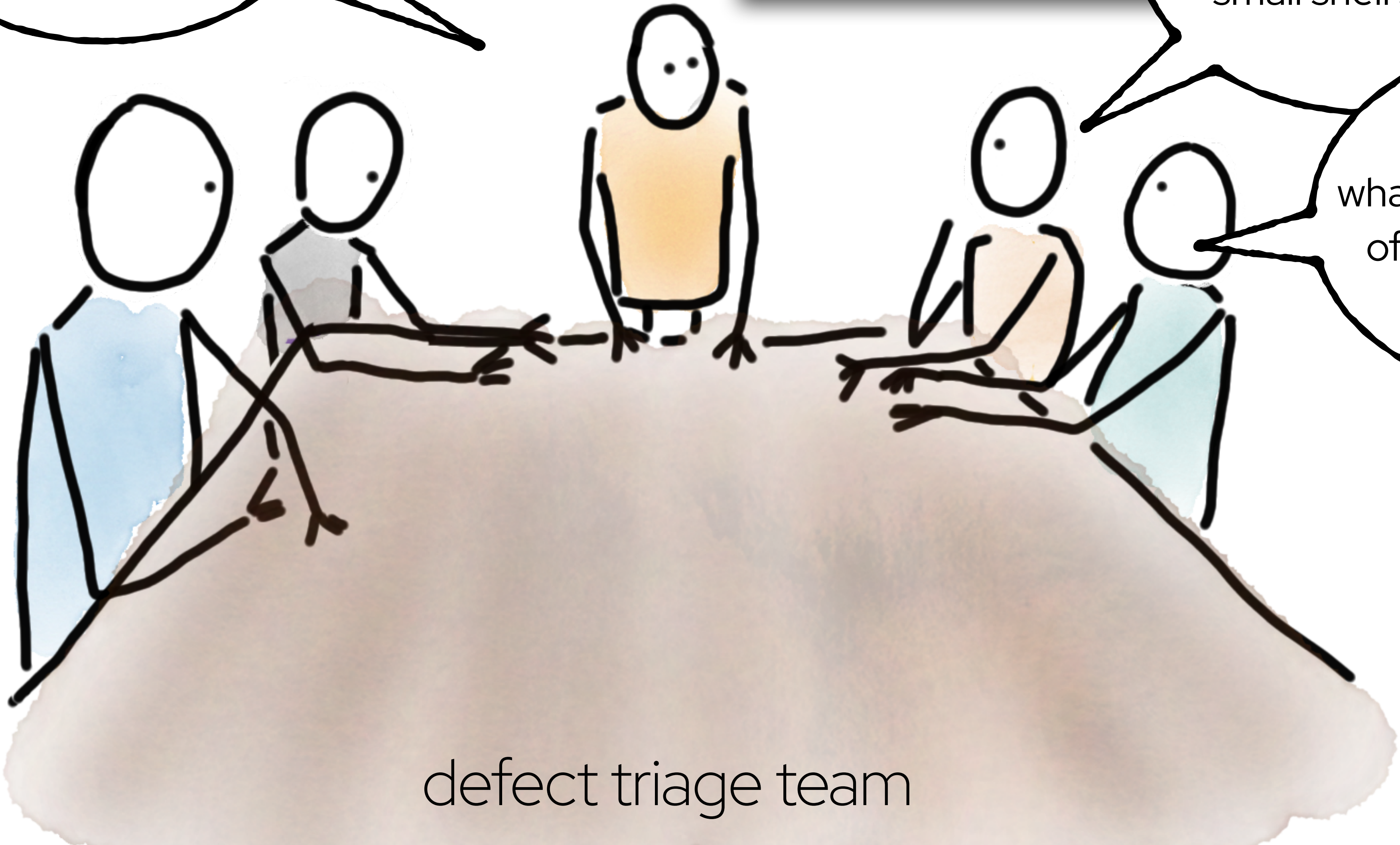


let's ... set the priority to 'medium'!

Functional Area: \* Rosie  
Severity: \* Unassigned  
Priority: Must  
Tags :  Should  Could  Can't

could we turn this whole meeting into a small shell script?

what if ... we just got rid of the priority field?



defect triage team

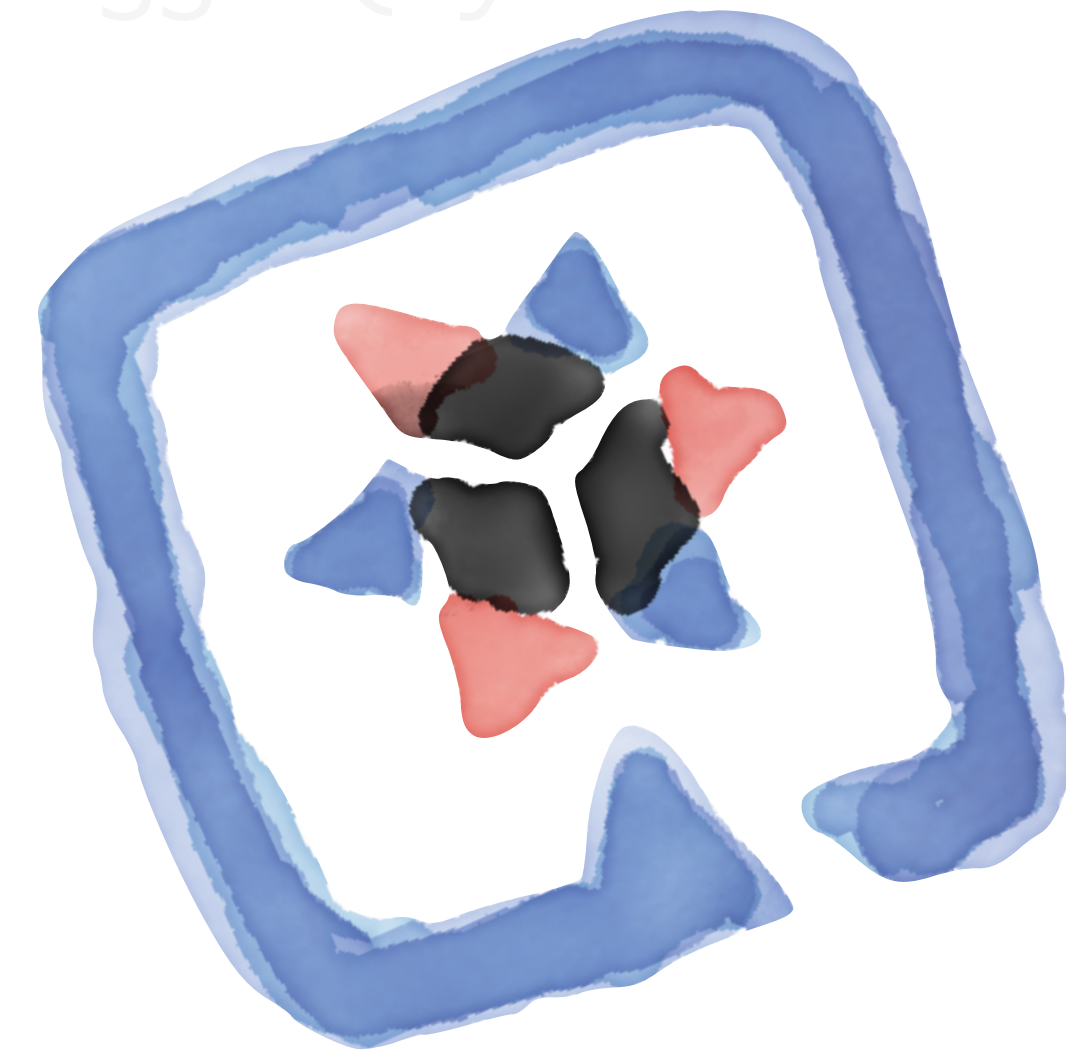
instead of using ai to fill in boilerplate,  
could we just ... get rid of the boilerplate?

# example: logging with quarkus

```
package com.example;
import io.quarkus.logging.Log;

public class MyService {
    private static final Logger log = Logger.getLogger(MyService.class);

    public void doSomething() {
        Log.info("It works!");
    }
}
```





- think different
- go for radical waste reduction



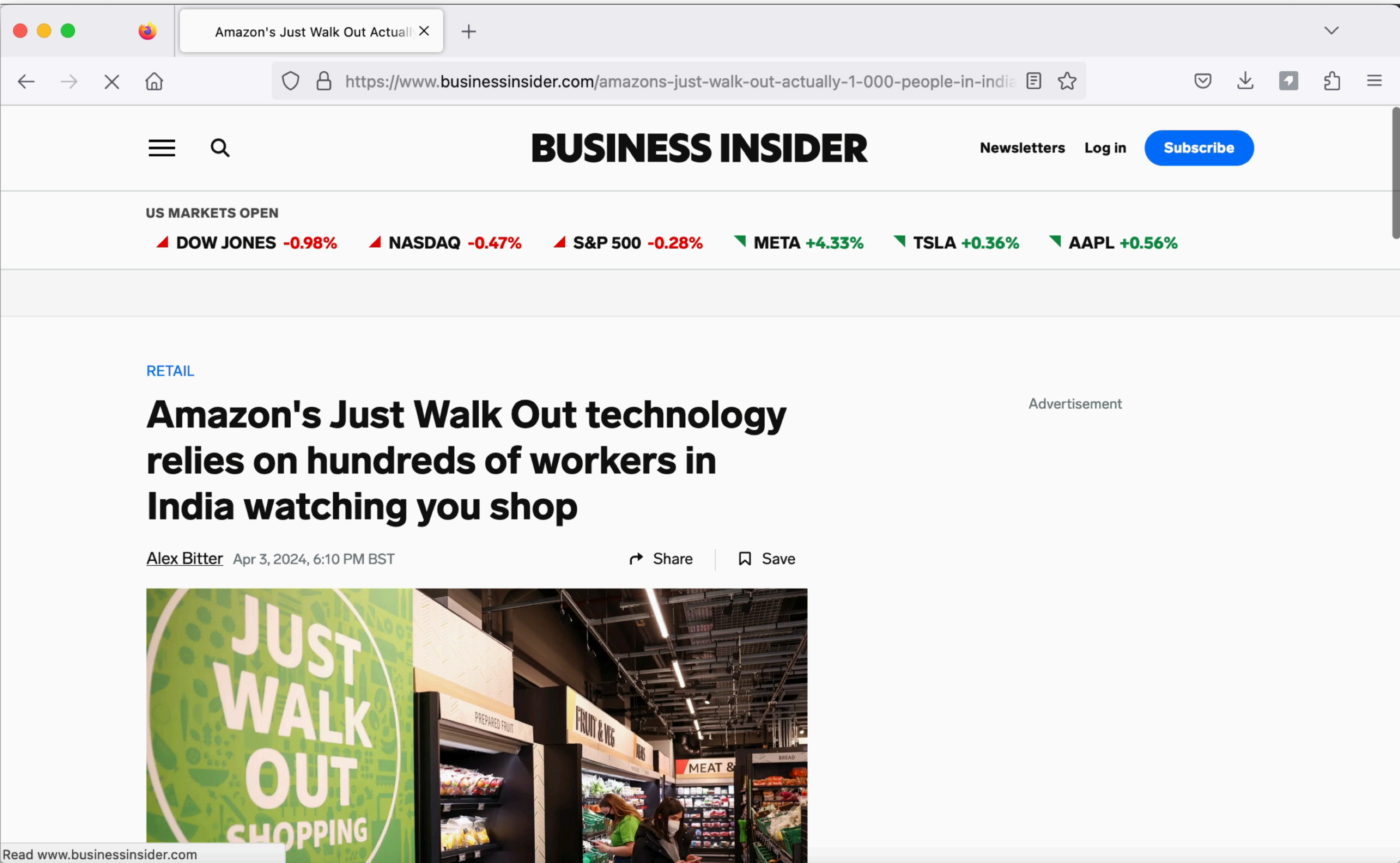


trade-offs

when efficiency isn't efficient

automation may not save as  
much time as you think

sometimes, "AI" is just shifting who is doing the work






OpenAI Used Kenyan Workers

https://time.com/6247678/openai-chatgpt-kenya-workers/

**TIME** SIGN UP FOR OUR IDEAS NEWSLETTER SIGN IN SUBSCRIBE

BUSINESS • TECHNOLOGY

# Exclusive: OpenAI Used Kenyan Workers on Less Than \$2 Per Hour to Make ChatGPT Less Toxic



sometimes, the person they're shifting the work to is **you**

- writing natural language specifications (ie "prompts")
- validation
- debugging
- maintenance

“What is the world record for crossing the English channel entirely on foot?”

“The world record for crossing the English Channel entirely held by Christof Wanderski who completed the crossing in 19 and 51 minutes on a

**bullshit as a service**





ChatGPT gets code questions w X

https://www.theregister.com/2023/08/07/chatgpt\_stack\_overflow\_ai/

SIGN IN / UP The Register

AI + ML

# ChatGPT's odds of getting code questions correct are worse than a coin flip

37

But its suggestions are so annoyingly plausible

Thomas Claburn Mon 7 Aug 2023 // 22:10 UTC

ChatGPT, OpenAI's fabulating chatbot, produces wrong answers to software programming questions more than half the time, according to a study from Purdue University. That said, the bot was convincing enough to fool a third of participants.

The Purdue team analyzed ChatGPT's answers to 517 Stack Overflow questions to assess the correctness, consistency, comprehensiveness, and conciseness of ChatGPT's answers. The US academics also conducted linguistic and sentiment analysis of the answers, and questioned a dozen volunteer participants on the results generated by the model.

"Our analysis shows that 52 percent of ChatGPT answers are incorrect and 77 percent are verbose," the team's paper concluded. "Nonetheless, ChatGPT answers are still preferred 39.34 percent of the time due to their comprehensiveness and well-articulated language style." Among the set of preferred ChatGPT answers, 77 percent were wrong.

OpenAI on the ChatGPT website acknowledges its software "may produce inaccurate information about people, places, or facts." We've asked the lab if it has any comment about the Purdue study.

The pre-print paper is titled, "Who Answers It Better? A Deep Analysis of ChatGPT and Stack Overflow"

“ Only when the error

Visual Studio LIVE! FROM ZERO TO .NET MAUI With PAUL SHERIFF MAR 19-20  
2-DAY VIRTUAL SEMINAR SAVE \$250 WITH CODE NETMAUI REGISTER BY MARCH 1 REGISTER NOW

NEWS



## New GitHub Copilot Research Finds 'Downward Pressure on Code Quality'

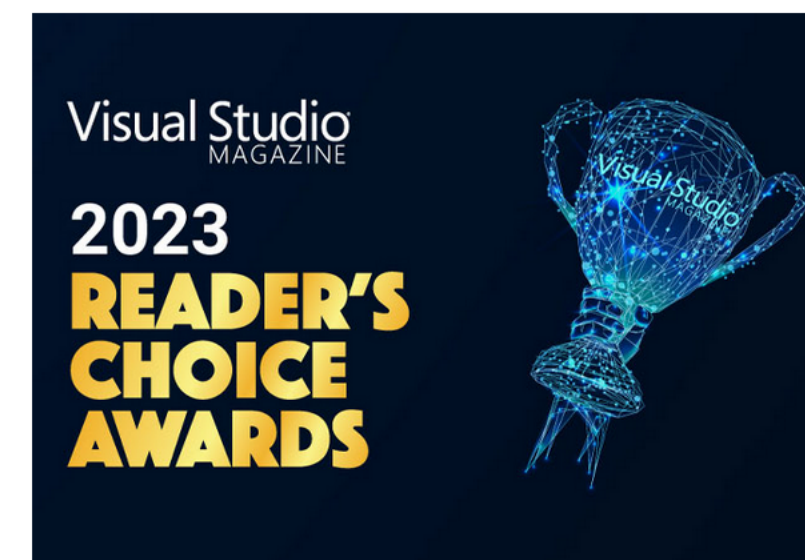
By David Ramel 01/25/2024

New research on the effect of AI-powered GitHub Copilot on software development cites some adverse results.

The "**Coding on Copilot**" whitepaper from GitClear sought to investigate the quality and maintainability of AI-assisted code compared to what would have been written by a human. In other words: "Is it more similar to the careful, refined contributions of a Senior Developer, or more akin to the disjointed work of a short-term contractor?"

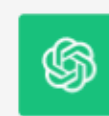
The answer to that is summarized in this paragraph from the whitepaper's abstract:

Subscribe on YouTube





70%  
unnecessary  
code



Sure, here's a Quarkus class that allows FOSSCOMM attendees to rate talks out of 10, including the speaker name, rating, and optional comments. This class represents a `TalkRating` entity that you can use for this purpose:



```
java
```

```
Copy code
```

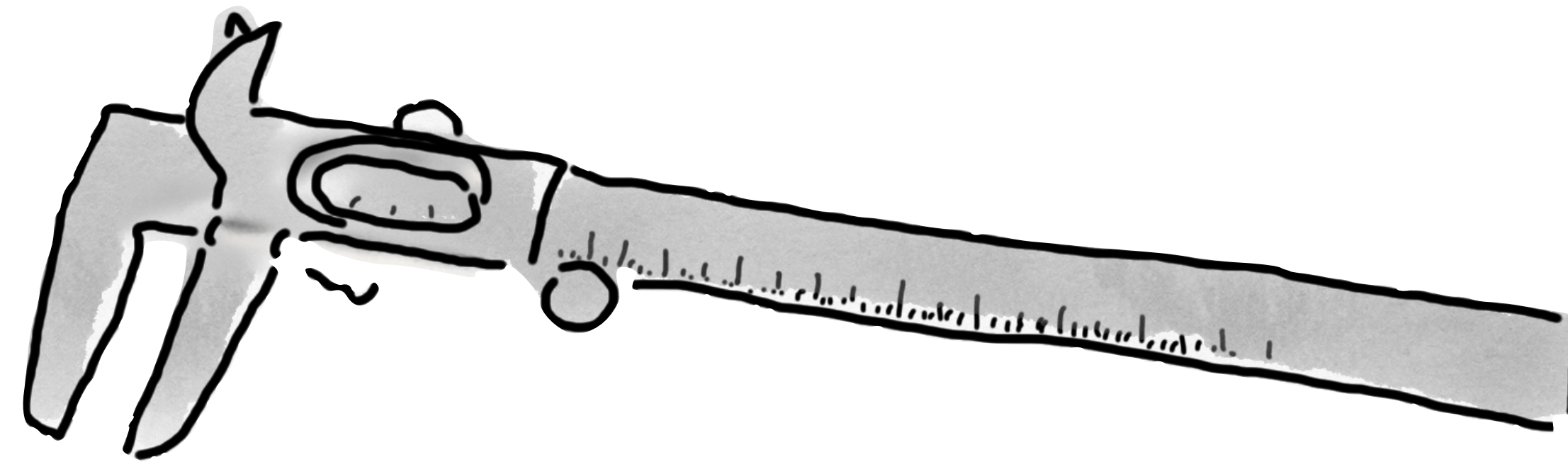
```
Regenerate
```



“illusion of efficiency”

“data-driven”

measuring the efficiency of people



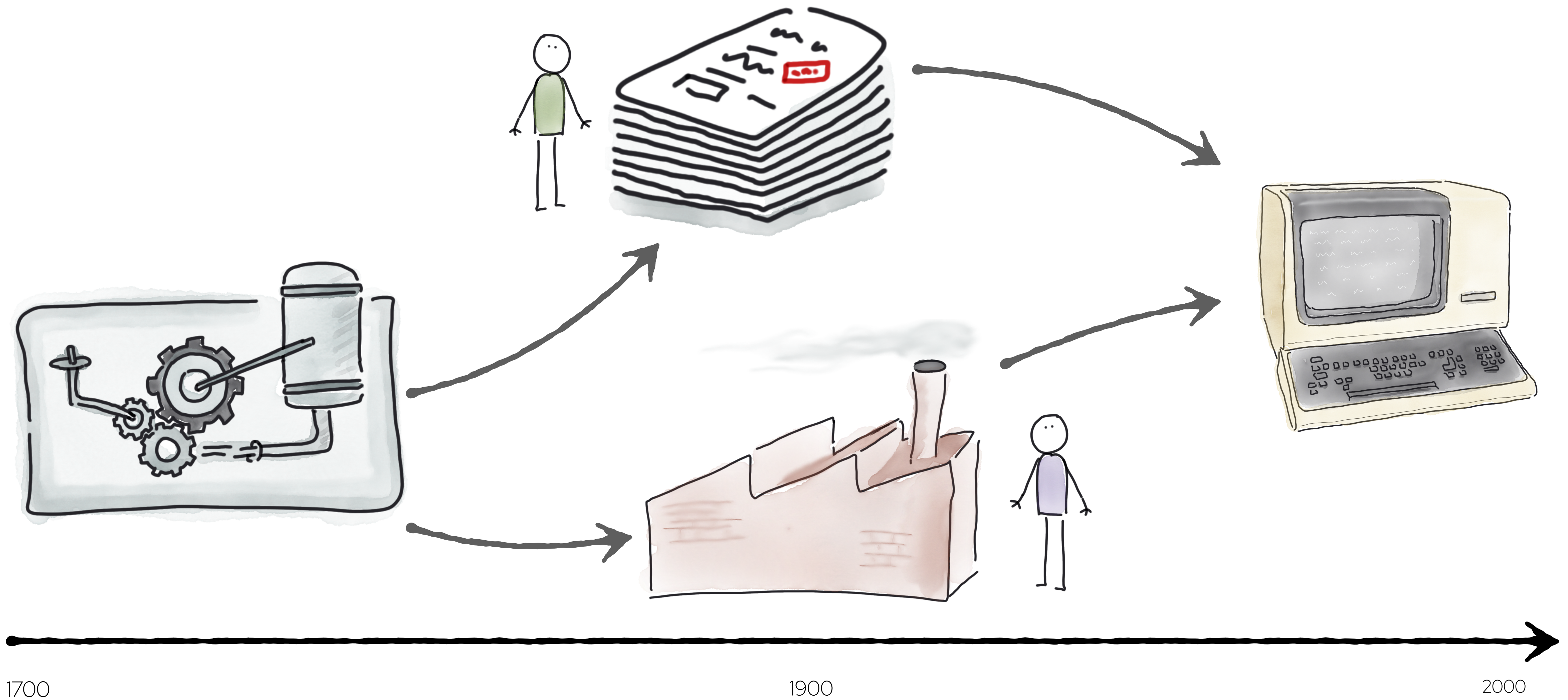


you get what you measure

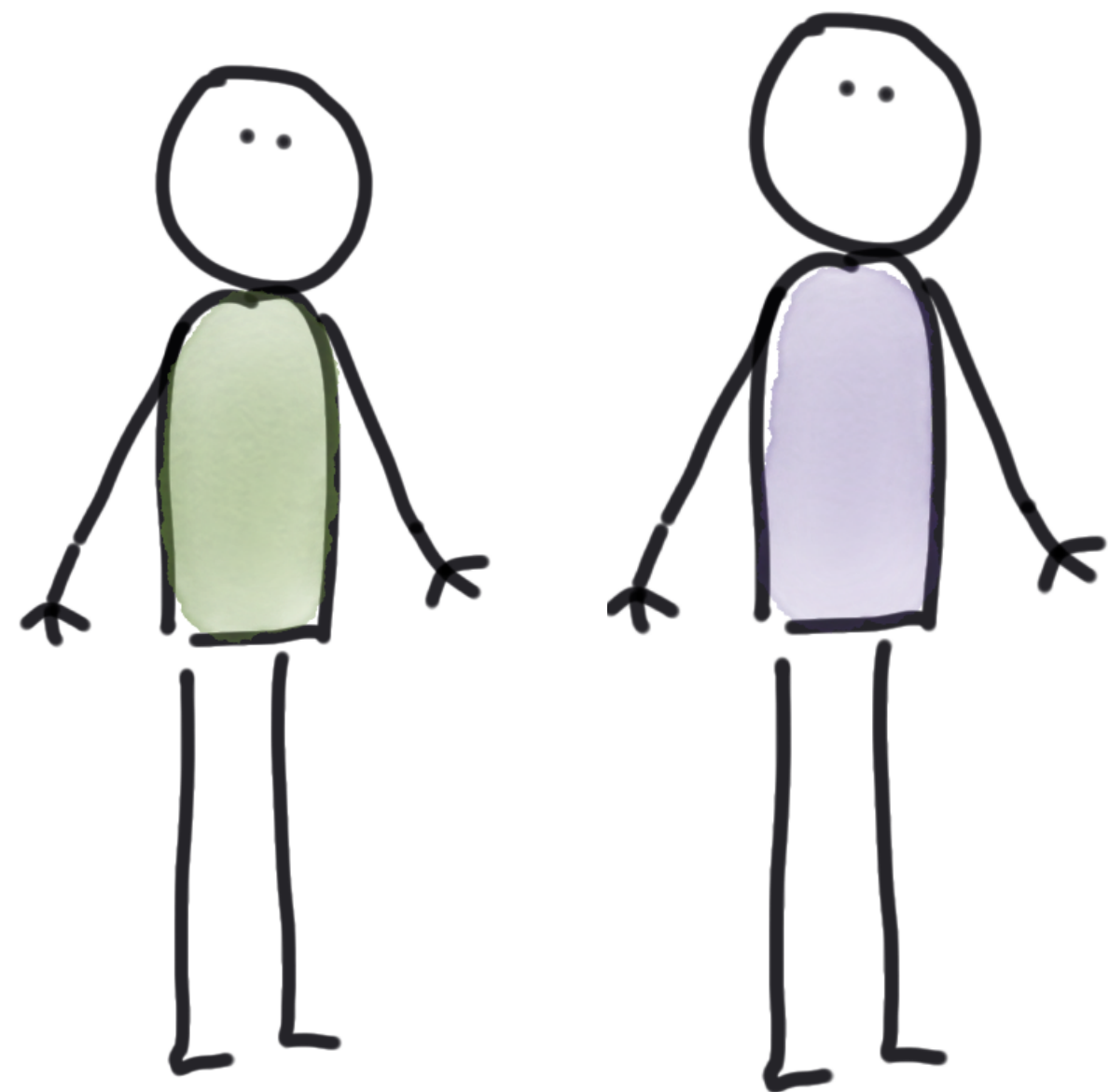
are you measuring what you actually want?

The image shows a browser window displaying a McKinsey & Company article. The browser's address bar shows the URL: <https://www.mckinsey.com/industries/technology-media-and-telecommunications/our-insights/>. The page header includes the McKinsey & Company logo, the section title "Technology, Media & Telecommunications", and navigation links for "How We Help Clients", "Our Insights", "Our People", and "Contact Us". There are also "Sign In" and "Subscribe" links. The main content area features a large image of a team of people in a modern office setting, with several computer monitors displaying code and data. Overlaid on this image is the article title: "Yes, you can measure software developer productivity, it's easy to measure wrong". Below the title, it says "August 17, 2023 | Article". At the bottom of the article preview, there are icons for sharing, printing, downloading, and bookmarking.

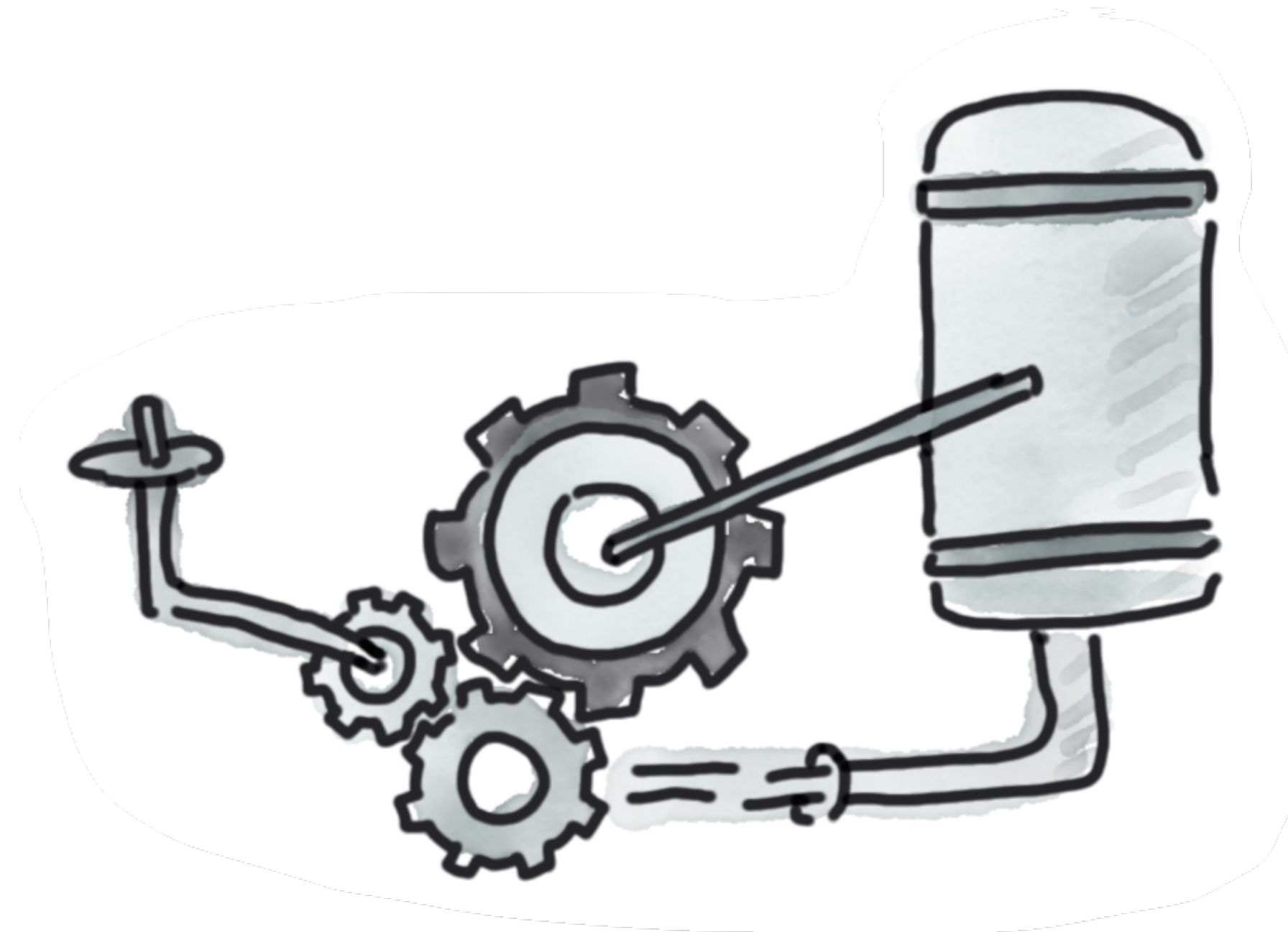








≈



taylorism

Delivery Drivers Sue Amazon For Being Forced To Pee In Bottles

FORBES > BUSINESS

BREAKING


# Delivery Drivers Sue Amazon For Being Forced To Pee In Bottles

Katherine Hamilton Forbes Staff  
*I cover breaking news.*

Follow

May 24, 2023, 02:24pm EDT

**TOPLINE** Three Amazon delivery drivers have filed a class action lawsuit against the e-commerce behemoth, claiming they faced “inhumane” working conditions that prohibited them from stopping to go to the bathroom while working.



reduce waste, not humanity



The image shows a browser window displaying a CNBC article. The browser's address bar shows the URL: <https://www.cnbc.com/2024/05/01/after-metas-year-of-efficiency-tech-leaders-root-for-innovation.html>. The CNBC logo is in the top left, and navigation links for 'MARKETS', 'BUSINESS', 'INVESTING', 'TECH', 'POLITICS', 'CNBC TV', 'INVESTING CLUB', and 'PRO' are in the top right. A search bar and 'WATCHLIST', 'SIGN IN', 'CREATE FREE ACCOUNT' buttons are also present. The main content area features the 'technology executive council' logo and a call to action: 'To join the CNBC Technology Executive Council, go to [cnbccouncils.com/tec](https://cnbccouncils.com/tec)'. Below this are links for 'TOP STARTUPS FOR THE ENTERPRISE', 'COUNCIL MEMBERS', 'FOUNDING MEMBERS', and 'ADVISORY BOARD'. The article title is 'After Meta's 'year of efficiency,' industry leaders root for year of innovation'. The author is Rachel Curry (@WRITINGSOFRACH). The article is dated 'PUBLISHED WED, MAY 1 2024-12:36 PM EDT | UPDATED WED, MAY 1 2024-1:42 PM EDT'. A 'KEY POINTS' section contains one bullet point: 'To keep technological innovation on a strong path, companies must implement workforce efficiency mindfully.'

“efficiency” as a synonym for layoffs



**Yash Zaveri** · 1st

Partner & Managing Director at Flash Ventures

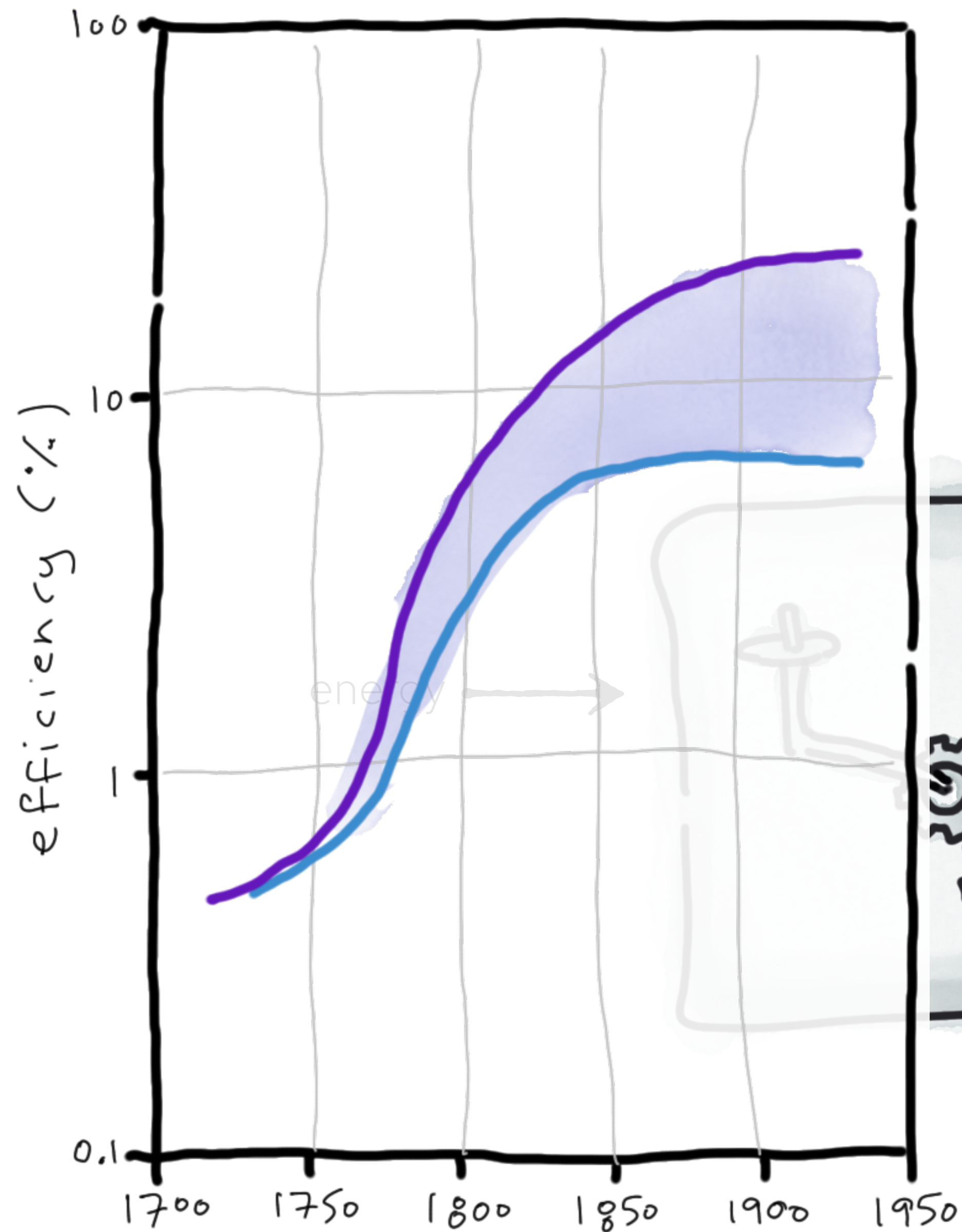
11m



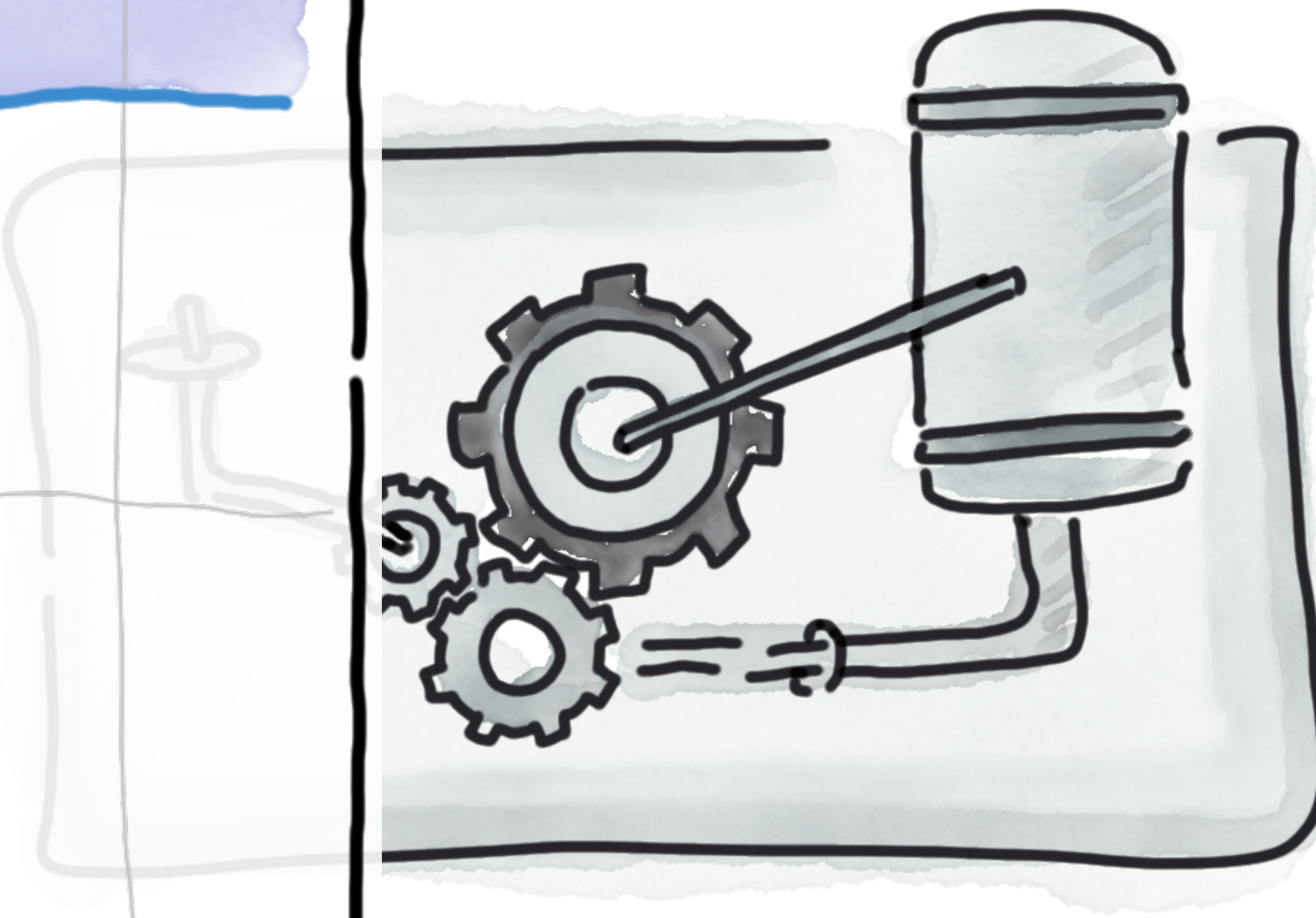
I just heard of a founder who monitors his co-founder's and employee's productivity via a Whoop group. The team is collectively averaging 5.5 hours of sleep per night.



# steam engine efficiency



even for machines, there is a **limit** to efficiency  
...and it's lower than you think



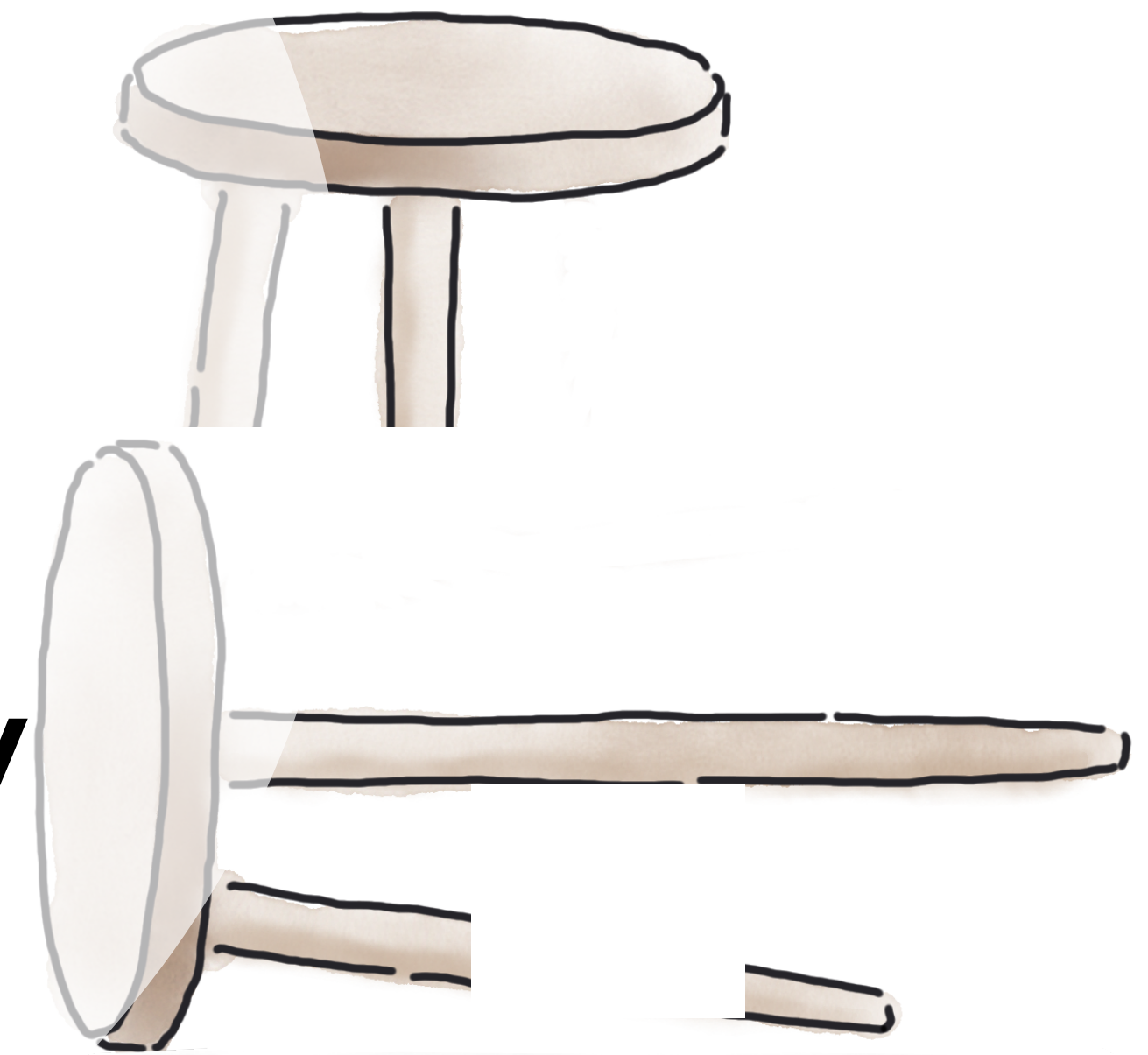
**less** energy  
that is useful



consider other requirements, such as resiliency

less efficient  
(more legs than needed)

highly efficient  
(optimum number of legs)



resiliency  
**lowers**  
efficiency

resilient

no resiliency



it's the same for people

all work and no play is ... **not** efficient



research shows:  
fun is good for business.

**Effects of Workplace Fun on Employee Behaviors:  
Focused on Generation Y in the Hospitality Industry**

Young Gin Choi  
Hospitality Management and Dietetics  
Kansas State University, USA

Junehee Kwon  
Hospitality Management and Dietetics  
Kansas State University, USA

and

Wansoo Kim  
Tourism Management  
Dong-A University, Korea

**ABSTRACT**

*The conceptual model of this study was tested based on responses from 234 hospitality students in the US who are Generation Yers and had worked in the hospitality industry for more than 3 months. This study revealed that Generation Y employees' attitude toward workplace fun positively affects their experienced workplace fun. In turn, Generation Yers' experienced workplace fun showed direct effects on their job satisfaction, task performance, and interpersonal citizenship behaviors. Affected by experienced workplace fun, job satisfaction significantly enhanced employees' task performance and interpersonal job satisfaction. In essence, for Generation Y employees in hospitality businesses, workplace fun is a significant factor in their job satisfaction, task performance, and interpersonal citizenship behavior. These findings provide a significant insight to hospitality employers who typically have a hard time to attract best young talents and motivate them mainly due to low-paying, low-status nature of hospitality jobs.*

**Keywords:** *workplace fun, Generation Y, hospitality business, job satisfaction, task performance, interpersonal citizenship behavior.*

**INTRODUCTION**

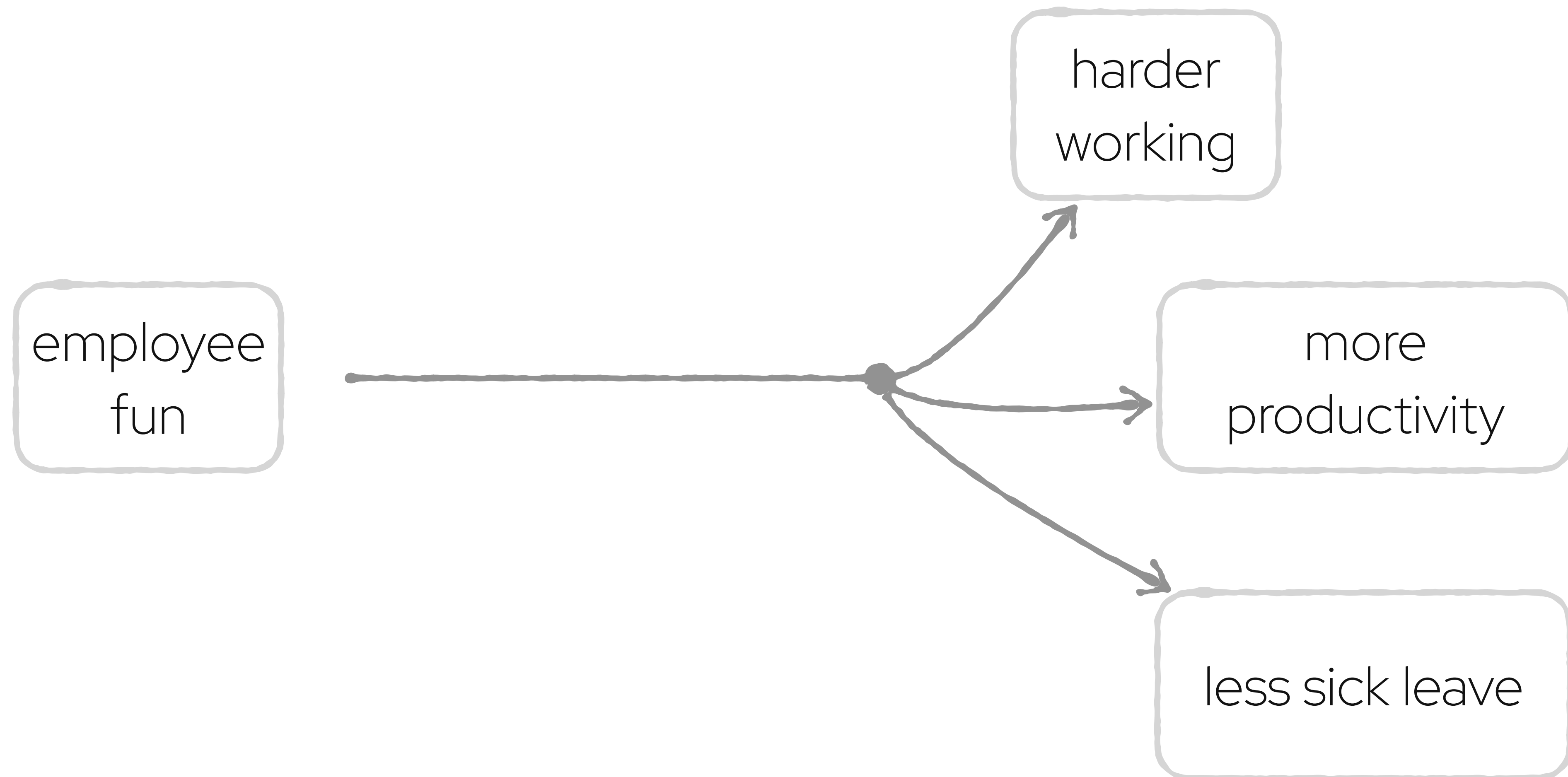
A growing number of business writers and consultants maintain that fun at work is essential for enhancing employee motivation and productivity, reducing stress (Karl, Peluchette, Hall, & Harland, 2005). According to Glasser (1994), having fun is the highest level of need of workers and often unmet at work while the lower levels of needs are mostly met at work. Bolton and Houlihan (2009) even articulated that fun at work seems become an established and accepted contributor to advisable people management and thus the bottom line. Indeed, previous academic studies have linked workplace fun with job satisfaction (Karl & Peluchette, 2006) and with task performance and organizational citizenship behavior (Fluegge, 2008).

n Job

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us and/or

# studies show...





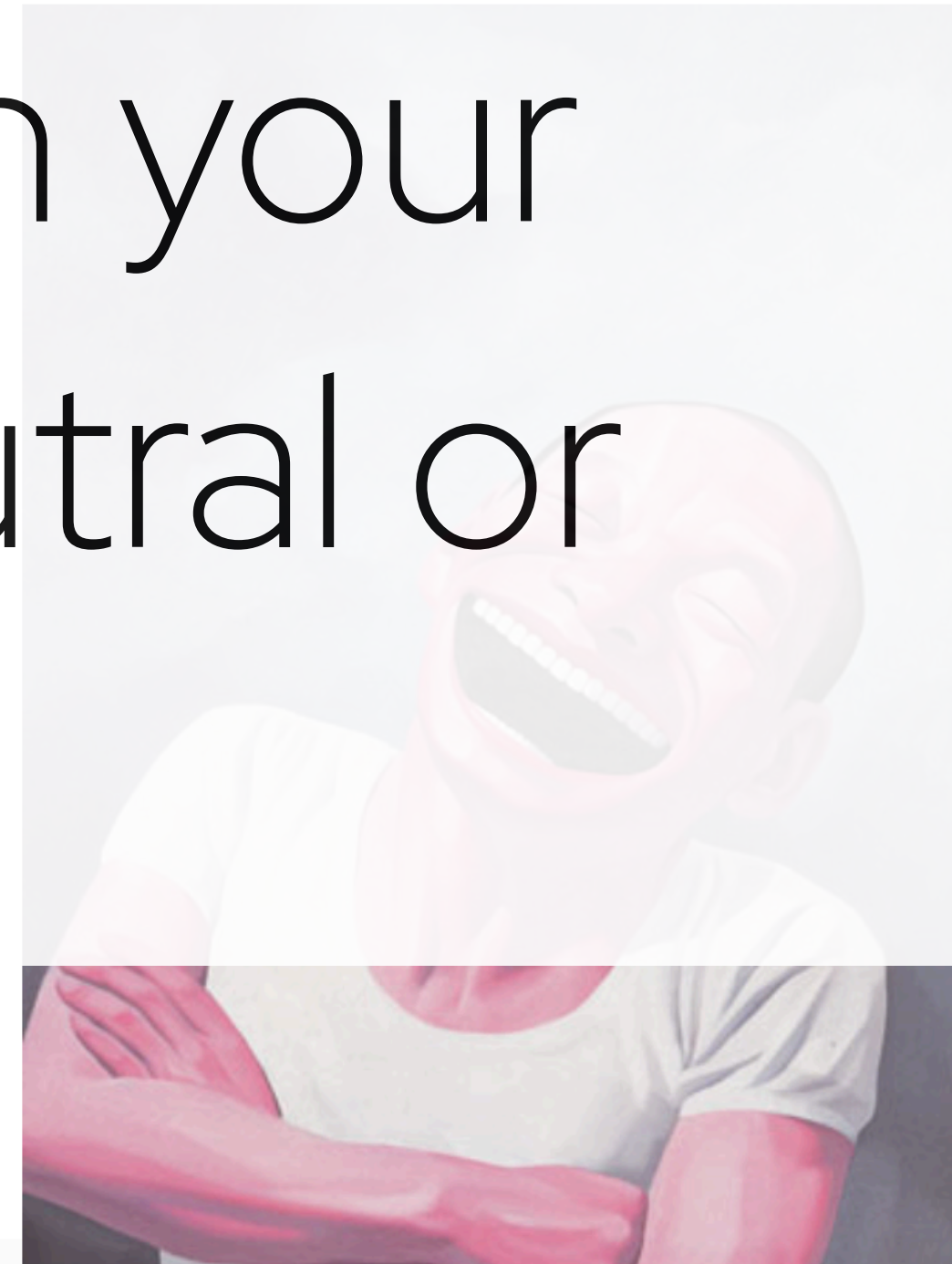
# Positive Intelligence

by **Shawn Achor**

FROM THE JANUARY-FEBRUARY 2012 ISSUE

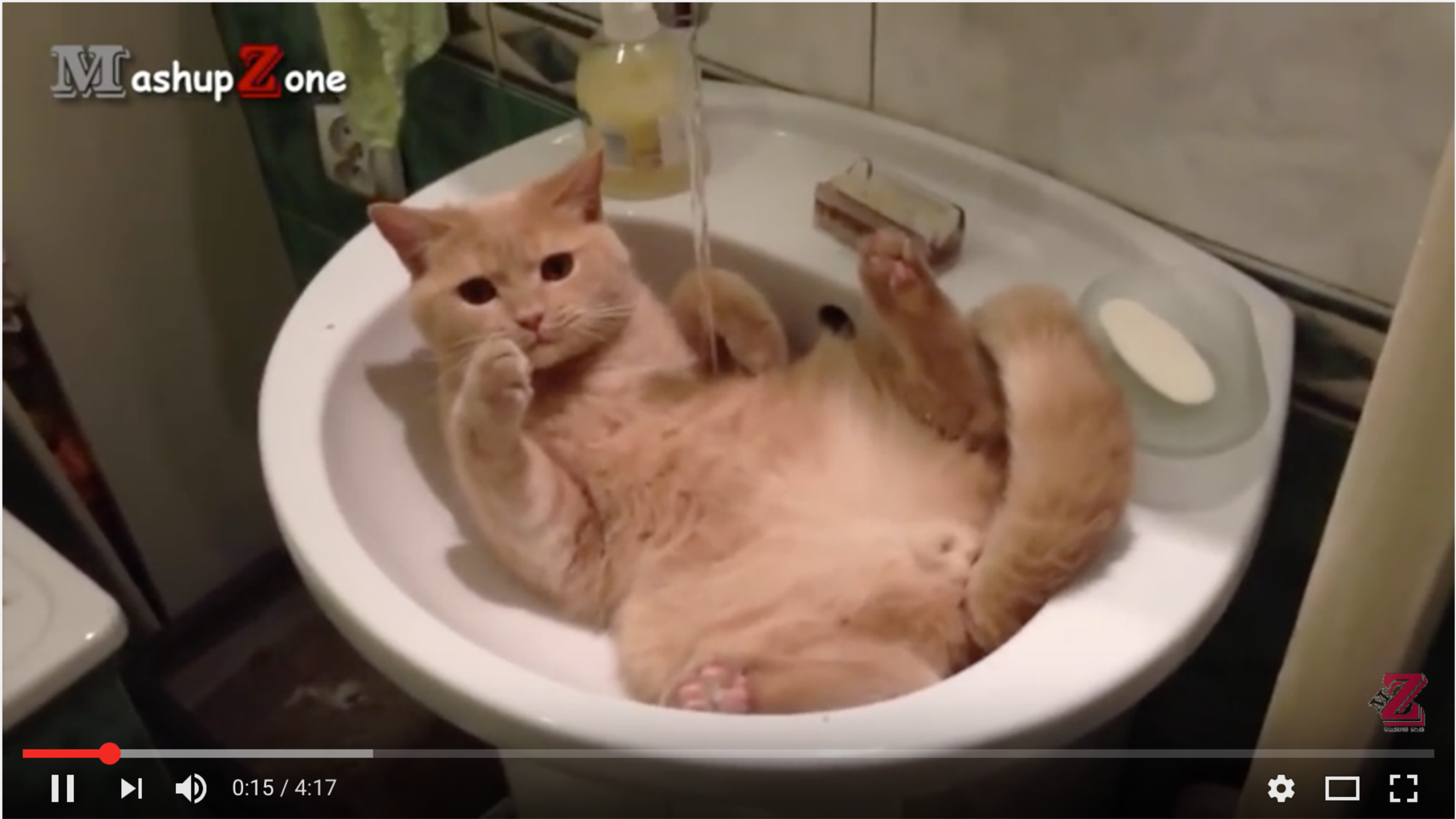
 SUMMARY  SAVE  SHARE  TEXT SIZE  PRINT **\$8.95** BUY COPIES

"Your brain at positive is 31% more productive than your brain at negative, neutral or stressed."



In July 2010 Burt's Bees, a personal-care products company, was undergoing enormous change as it began a global expansion into 19 new countries. In this kind of high-pressure situation, many leaders pester their deputies with frequent meetings or flood their in-boxes with urgent demands. In doing so, managers jack up everyone's anxiety level, which activates the portion of the brain that processes threats—the amygdala—and steals resources from the prefrontal cortex, which is responsible for





**Happiness and Productivity**

Andrew J. Oswald\*, Eugenio Proto\*\*, and Daniel Sgroi\*\*

\*University of Warwick, UK, and IZA Bonn, Germany

\*\*University of Warwick, UK

JOLE 3rd Version: 10 February 2014

*Emails:* [andrew.oswald@warwick.ac.uk](mailto:andrew.oswald@warwick.ac.uk); [e.proto@warwick.ac.uk](mailto:e.proto@warwick.ac.uk); [daniel.sgroi@warwick.ac.uk](mailto:daniel.sgroi@warwick.ac.uk)

*JEL Classification:* D03, J24, C91

*Keywords:* Well-being; productivity; happiness; personnel economics.

*Address:* Department of Economics, University of Warwick, Coventry CV4 7AL, United Kingdom.

*Telephone:* (+44) 02476 523510

*Acknowledgements:* For their suggestions, we thank the referees and the editor Paul Oyer. For fine research assistance, and valuable discussions, we are indebted to Malena Digiuni, Alex Dobson, Stephen Lovelady, and Lucy Rippon. For advice, we would like to record our deep gratitude to Alice Isen. Insightful suggestions were provided by seminar audiences in Berlin, Birmingham, Bonn, Leicester, Glasgow, HM Treasury London, LSE, Maastricht, PSE Paris, Warwick, York, and Zurich. Special thanks also go to Johannes Abeler, Eve Caroli, Emanuele Castano, Andrew Clark, Alain Cohn, Ernst Fehr, Justina Fischer, Bruno Frey, Dan Gilbert, Amanda Goodall, Greg Jones, Graham Loomes, Rocco Macchiavello, Michel Marechal, Sharun Mukand, Steve Pischke, Nick Powdthavee, Tommaso Reggiani, Daniel Schunk, Claudia Senik, Tania Singer, and Luca Stanca. The first author thanks the University of Zurich for its hospitality and is grateful to the ESRC for a research professorship. The ESRC (through CAGE) and the Leverhulme Trust also provided research support.

"Individuals [who just watched a comedy video] have approximately

**12%**

**greater productivity."**

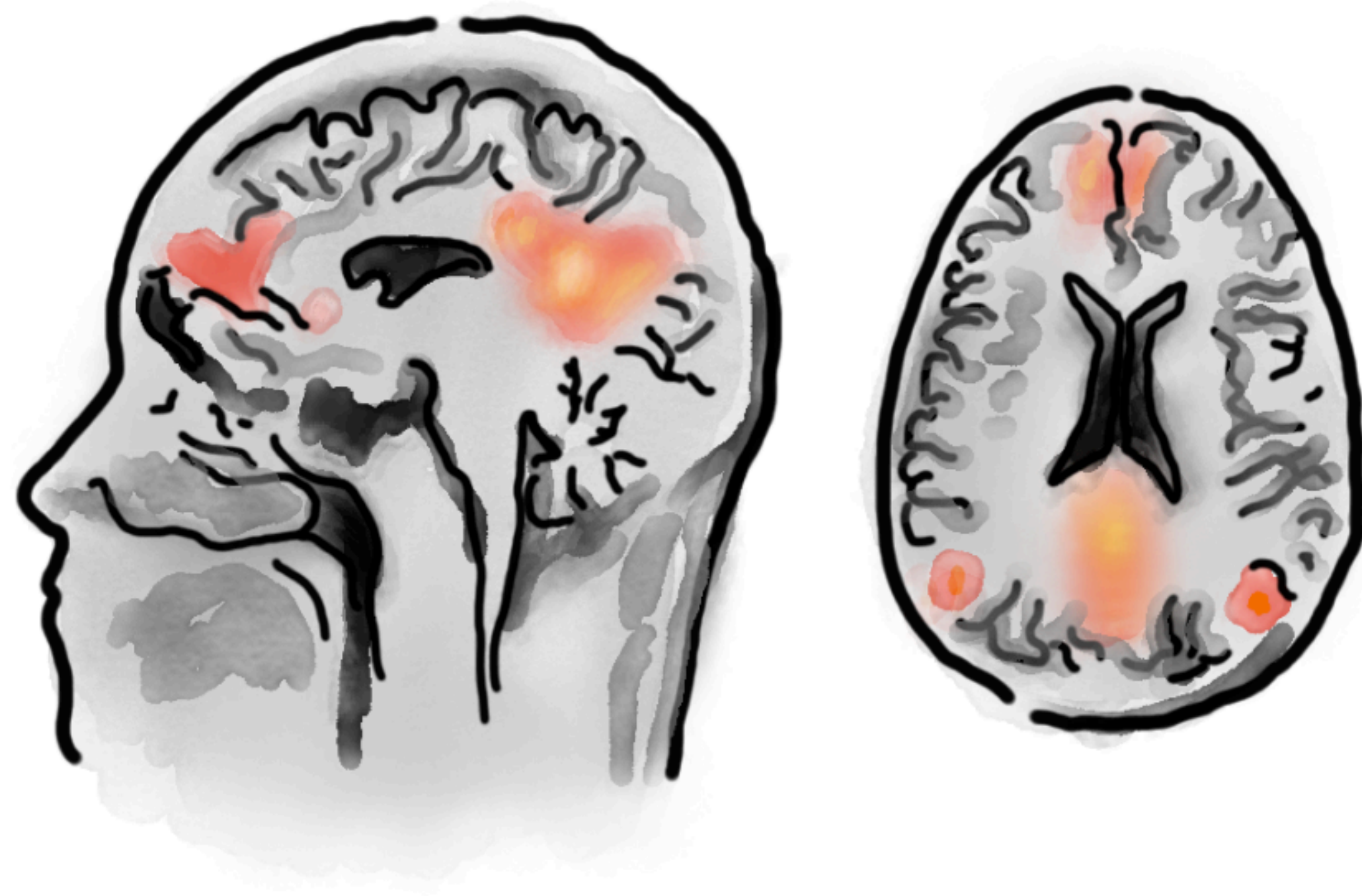
[https://wrap.warwick.ac.uk/63228/7/WRAP\\_Oswald\\_681096.pdf](https://wrap.warwick.ac.uk/63228/7/WRAP_Oswald_681096.pdf)

play helps creativity

we work in a creative industry

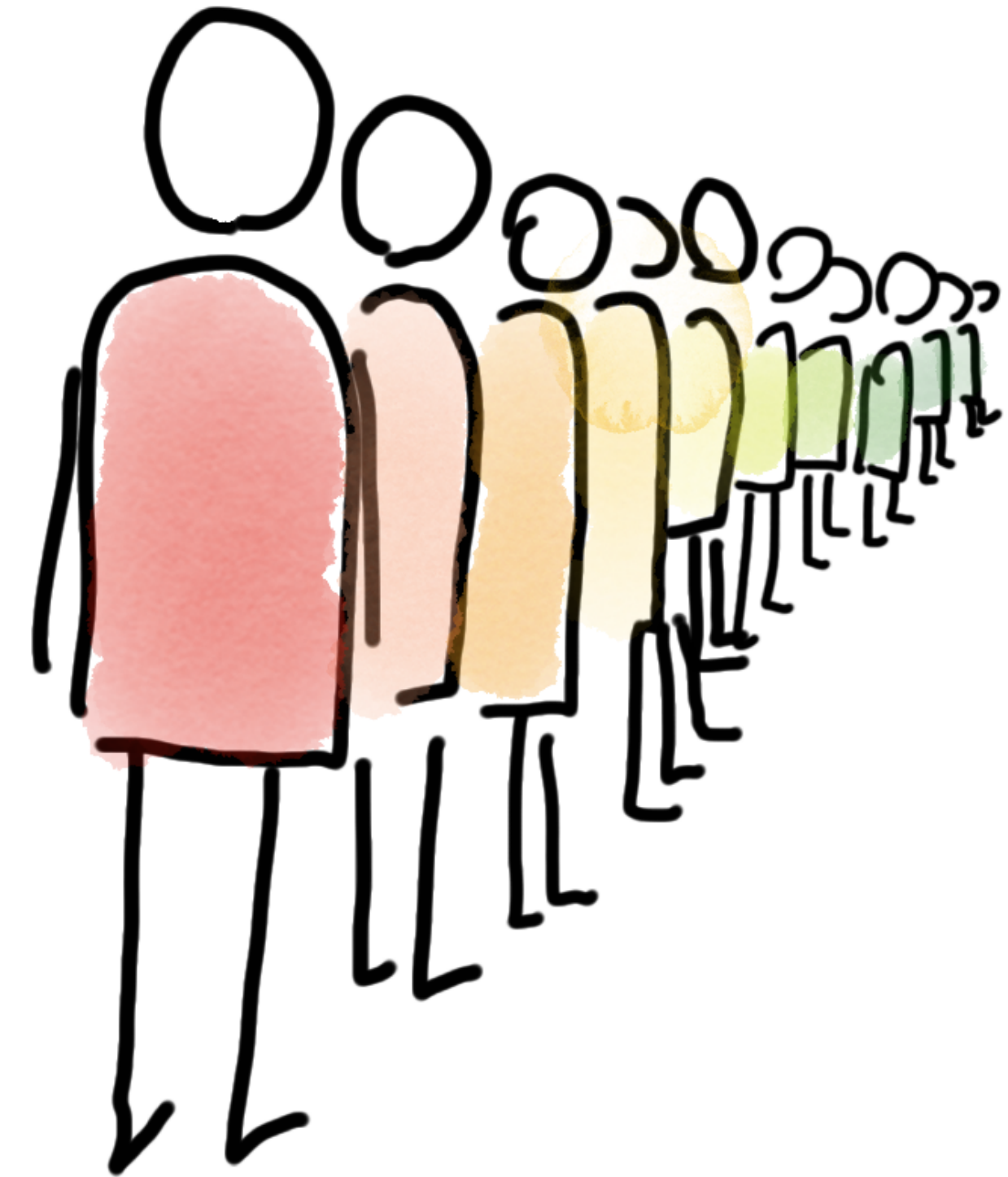


doing **nothing** helps creativity



the default mode network  
idle minds can solve hard problems

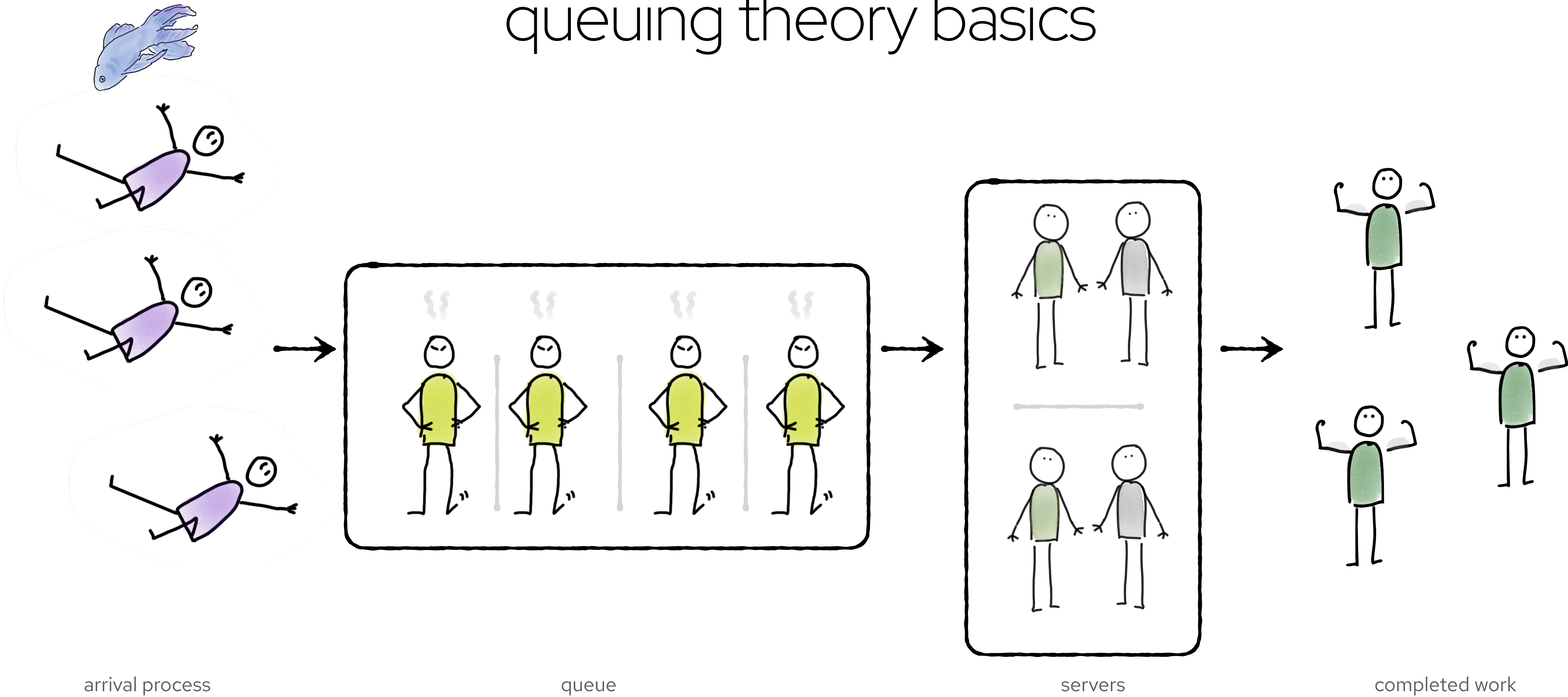
psychology says we need idle time; maths agrees  
queueing theory says systems need to run under-capacity to cope

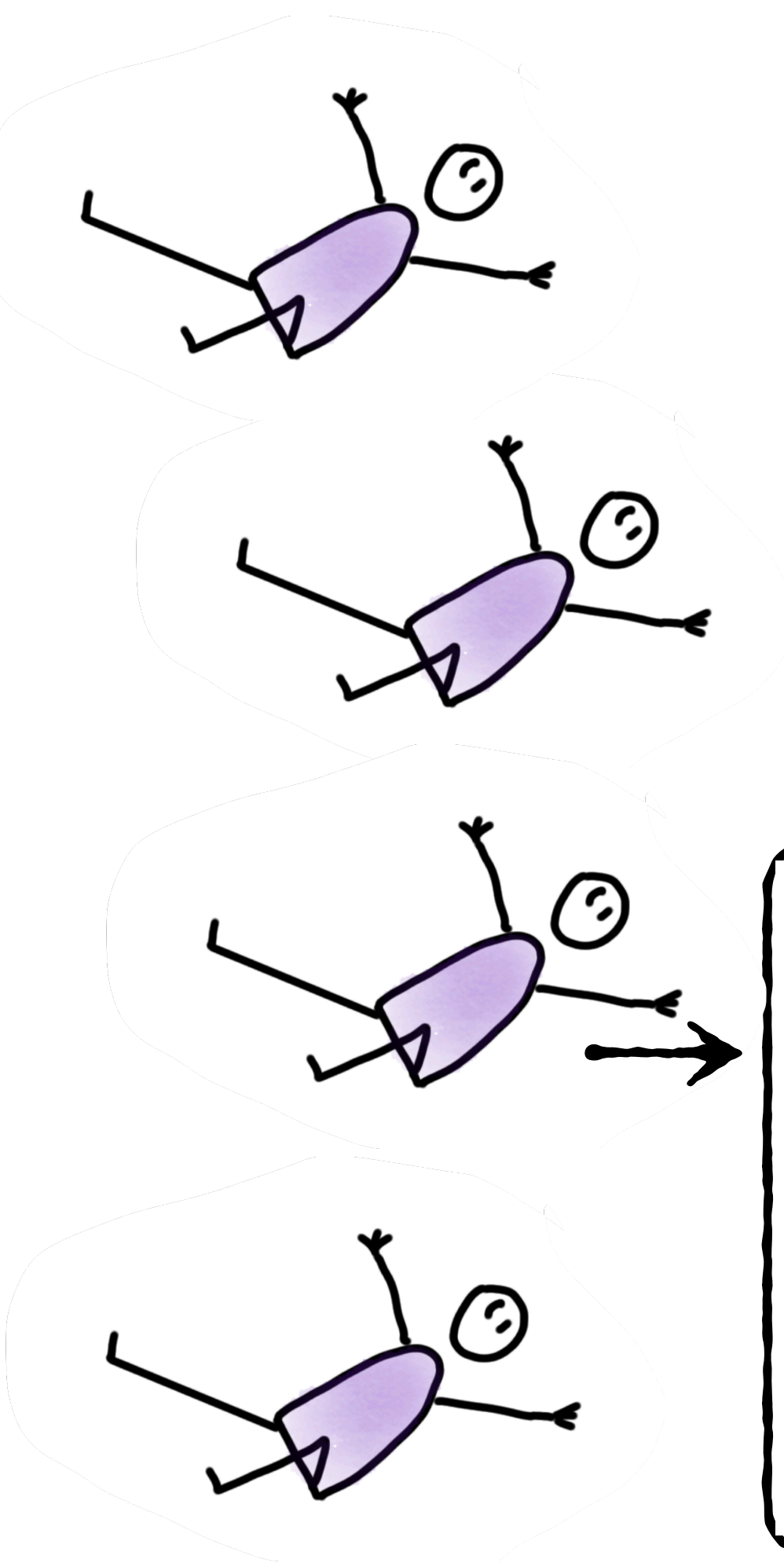




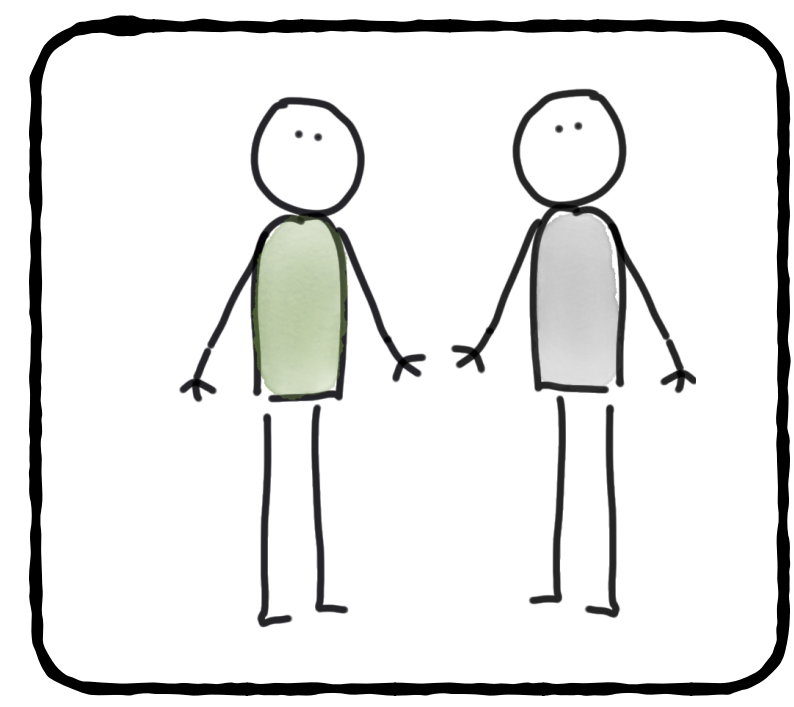
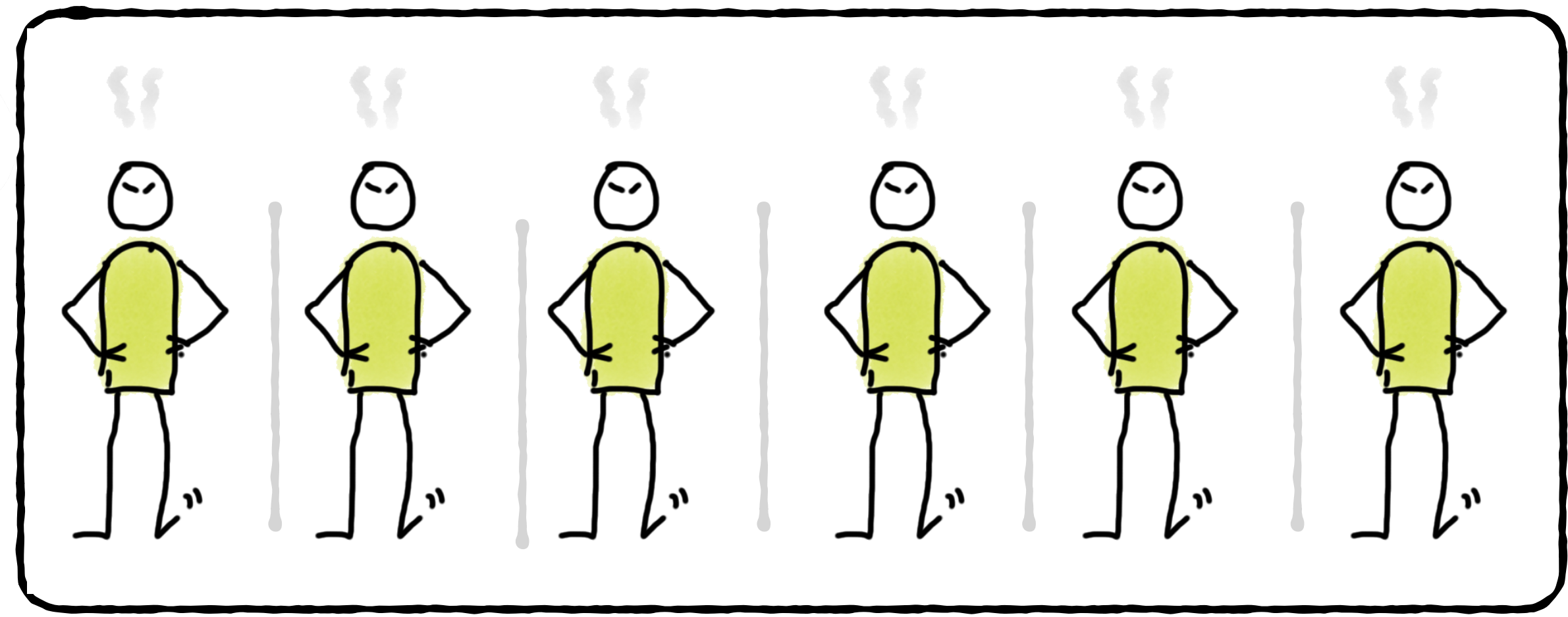
Poisson distribution

# queuing theory basics





if server capacity is too low, wait times are high



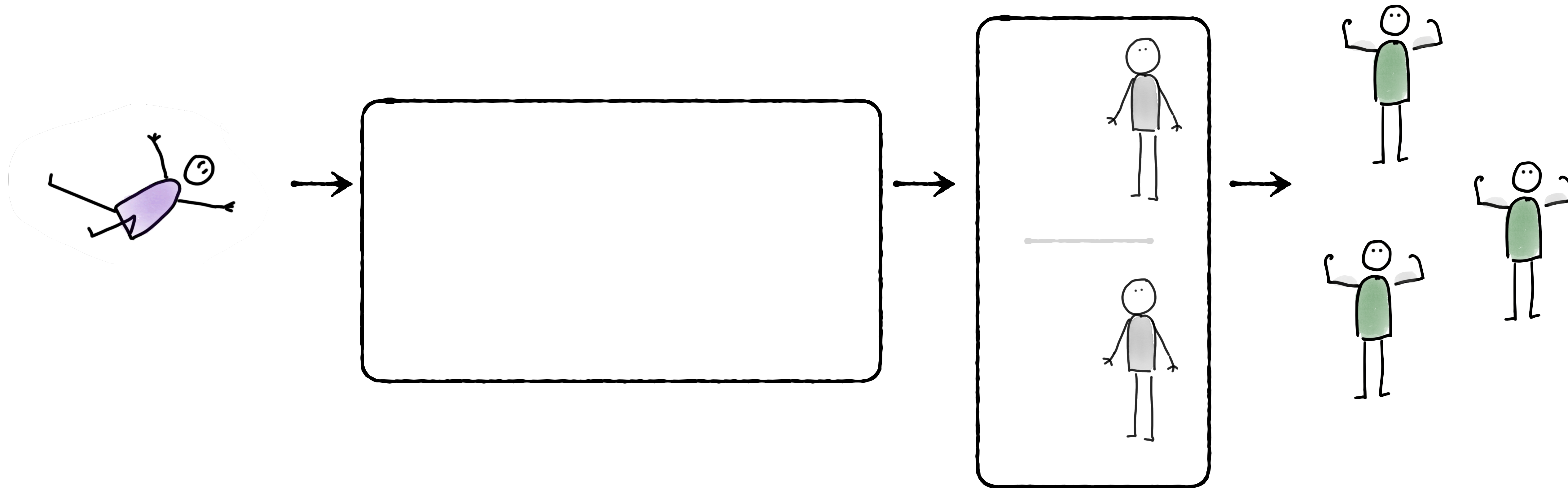
arrival process

queue

servers

completed work

if arrival rates are low, servers will be idle



arrival process

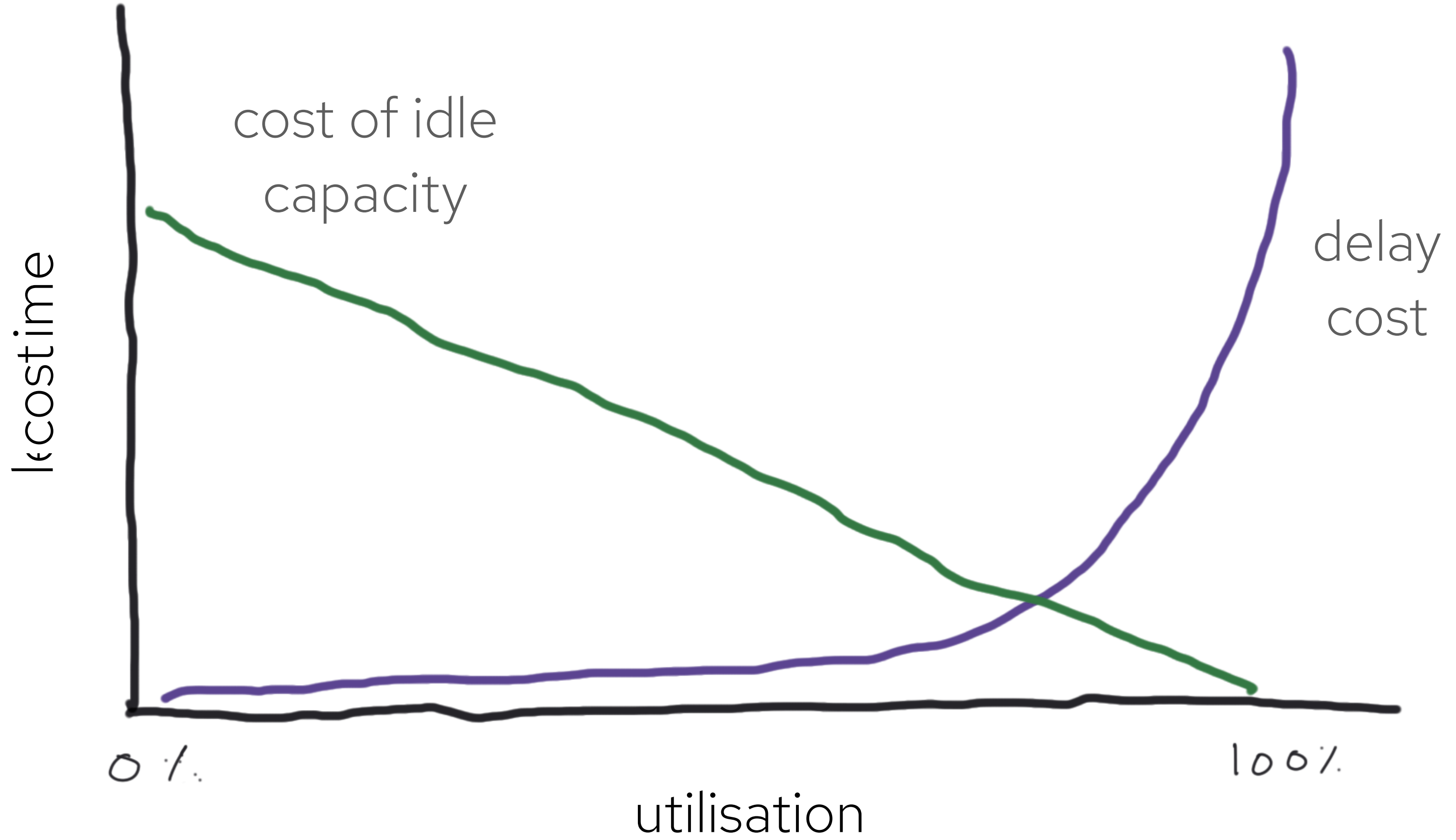
queue

servers

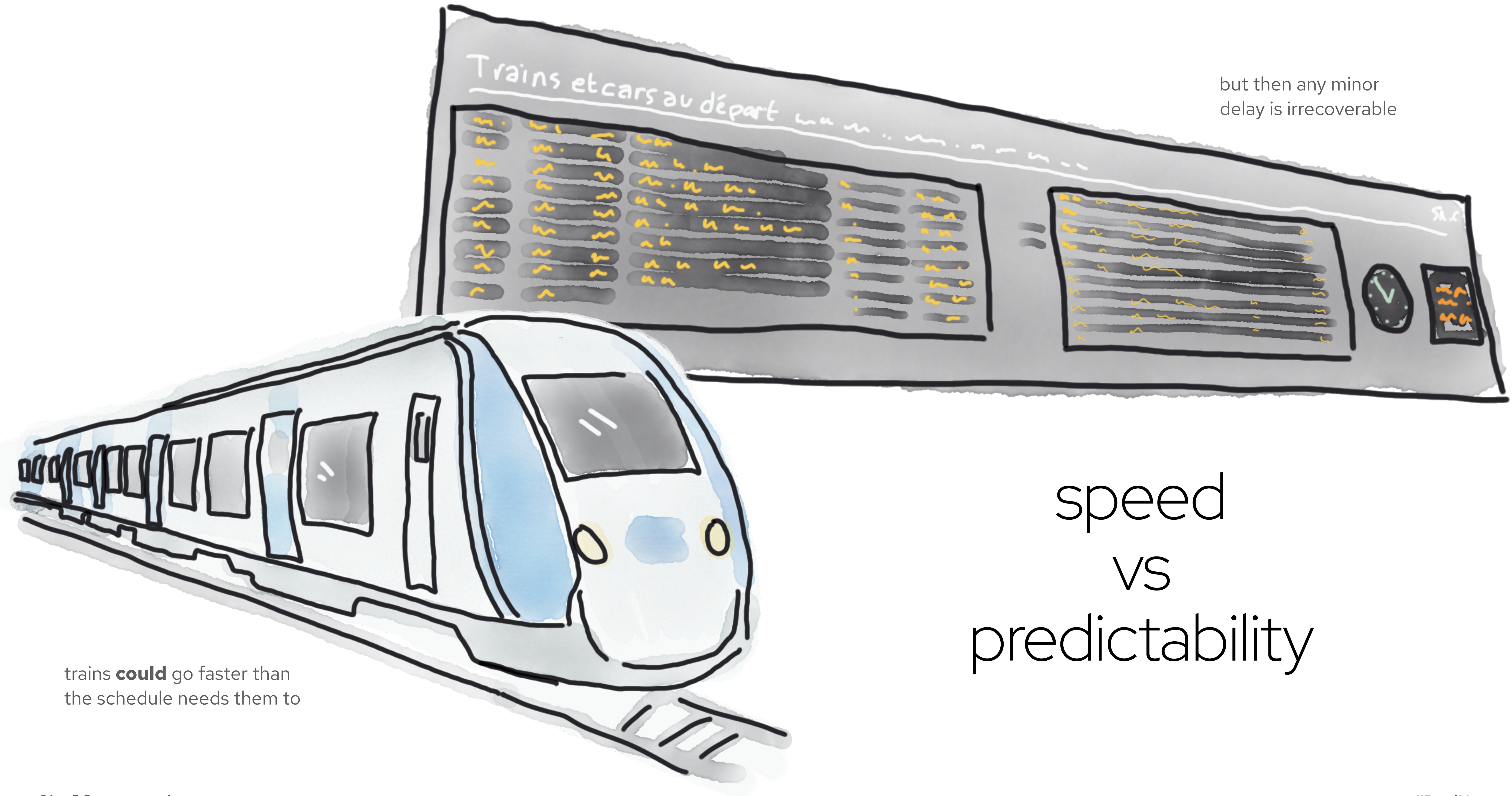
completed work



80% utilisation → 90% utilisation:  
wait times **double**







but then any minor delay is irrecoverable

speed  
vs  
predictability

trains **could** go faster than the schedule needs them to



this is **great** news

relaxing has business value



- measure thoughtfully; you **will** get what you measure
- remember the paradoxes:
  - efficiency is **not** always efficient
  - fun and idleness **improves** efficiency

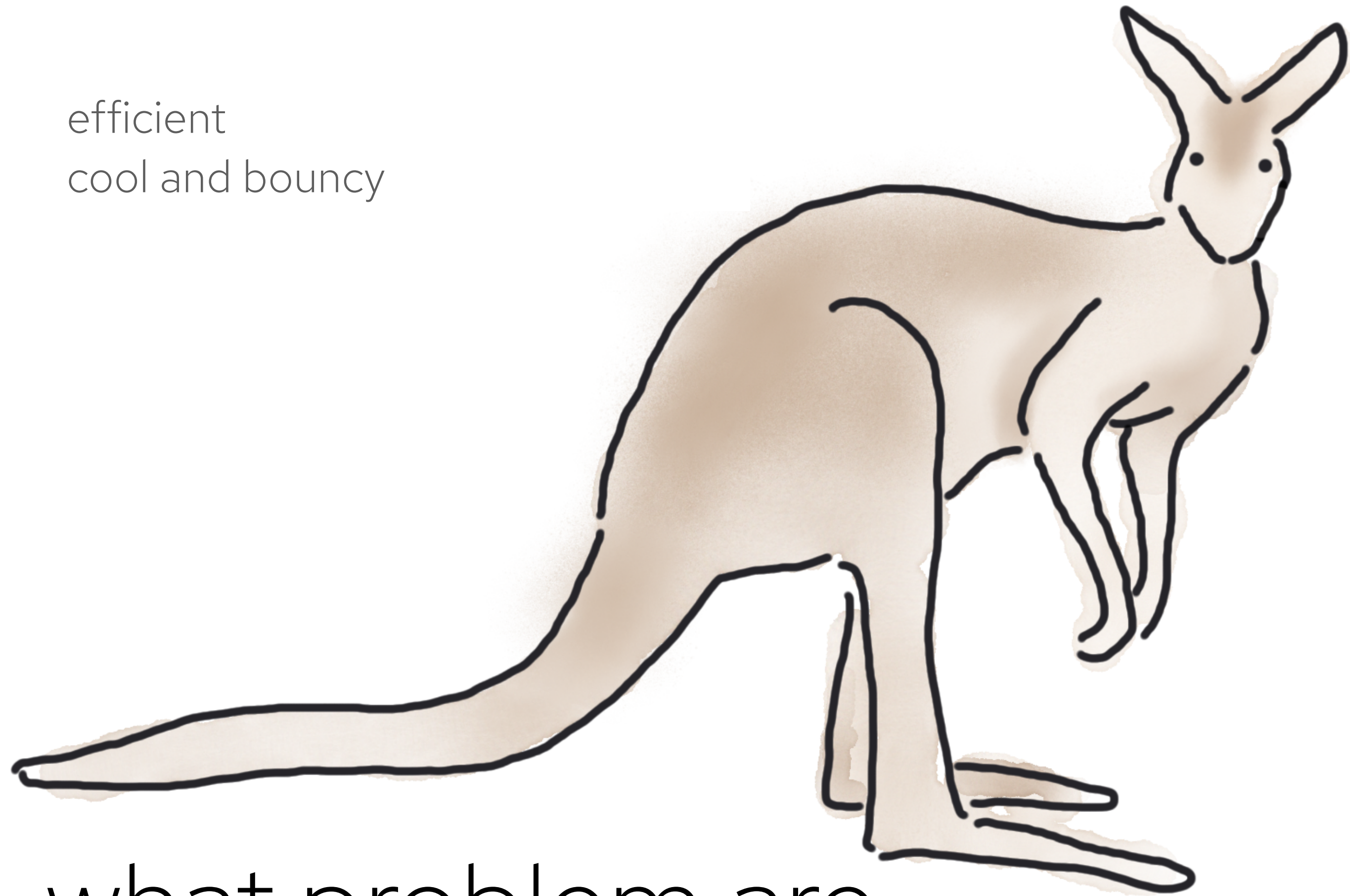


are you optimising the right thing?

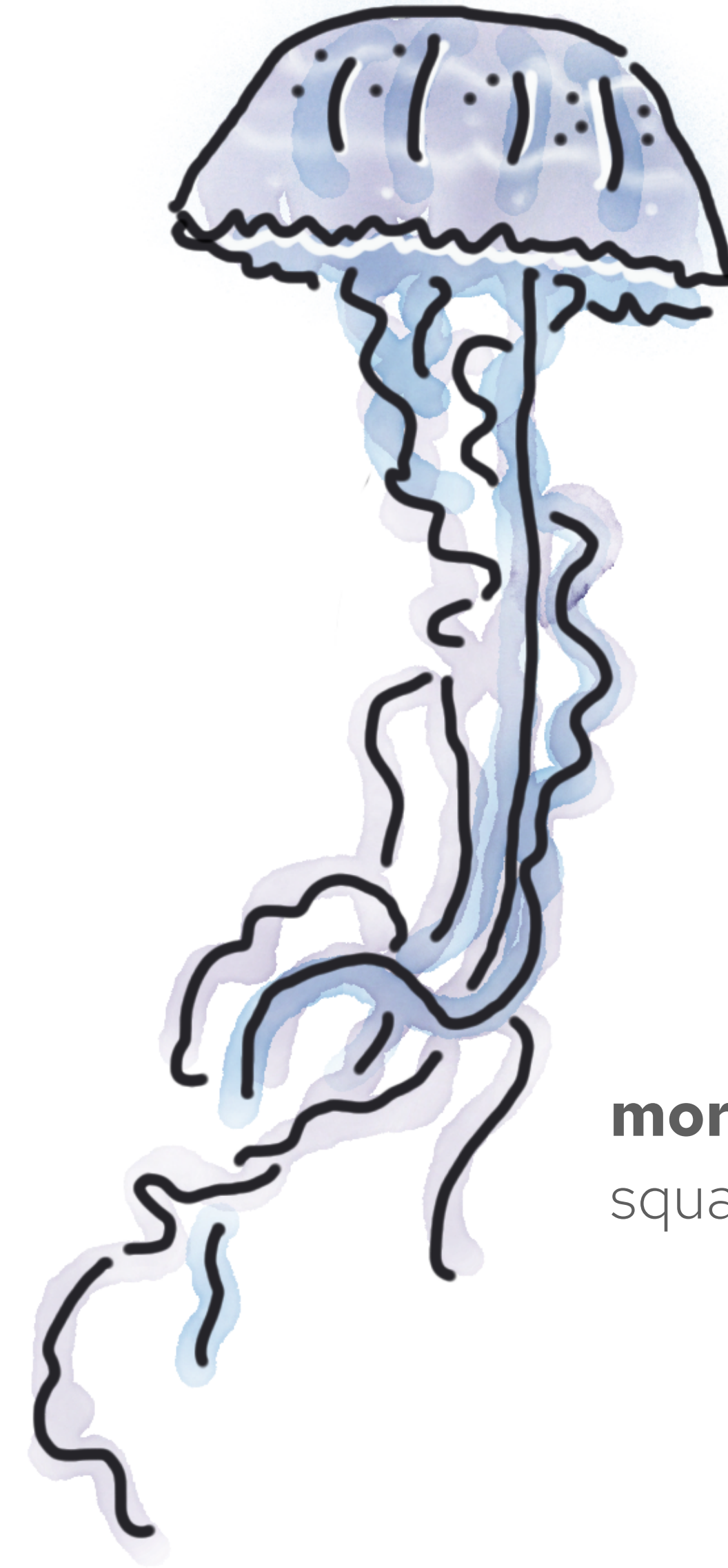
efficiency can take unexpected forms



efficient  
cool and bouncy



what problem are  
we trying to solve?



**more** efficient  
squashy and blobby



# tl;dpa

(too long; didn't pay attention)



- **do** look for waste, and get rid of it
- measure carefully, and **beware** the illusion of efficiency
- **remember** that people and systems function better with some idle time



slides



<https://hollycummins.com/efficiency-staffplus/>

# thank you

@holly\_cummins

#RedHat