Automationism

- Noah Sussman: ns@noahsussman.com

- Resources: https://gist.github.com/textarcana/cac0bfacc986e5380837

E.T.T.O.

- Efficiency-To-Thoroughness-Trade-Offs
- Resources: https://pinboard.in/u:noahsussman/t:etto

Abstraction

- As systems grow, more and more complexity gets hidden behind the boxes and arrows in our flow charts.

Sidney Dekker

- The Field Guide to Understanding Human Error

Tests and Testability

- TWO application features.
- Application features which must be supported and maintained just like any other feature.

Automation Cargo Cult

- Resources: https://pinboard.in/u:noahsussman/t:cargo+cult

Testing Problems

- **Testing "problems" are test RESULTS.**
- **"Fix the tests" is misleading.**
- **Broken / flaky tests indicate a problem with the APPLICATION.**
- **http://www.developsense.com/blog/2011/09/testing-problems-are-test-results/**

The whole time I'm writing code, I'm constantly testing my assumptions.

— Rasmus Lerdorf

What we assume about

motivation

risk

software

bugs in software

is wrong

ETTO

And the definition of
intractable
systems

NORMAL

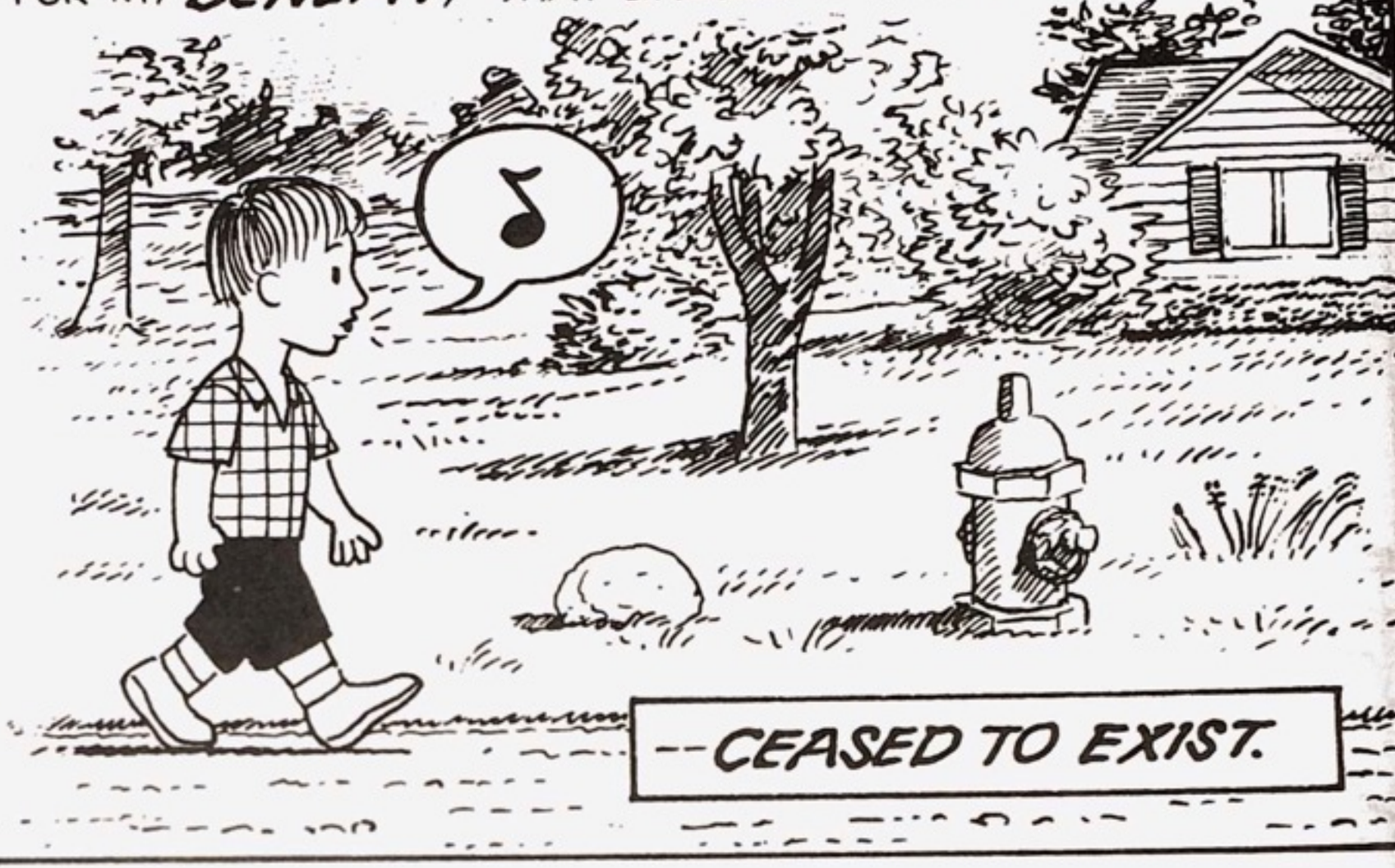
FAILURE

The 5 Wise Persons and THE ELEPHANT

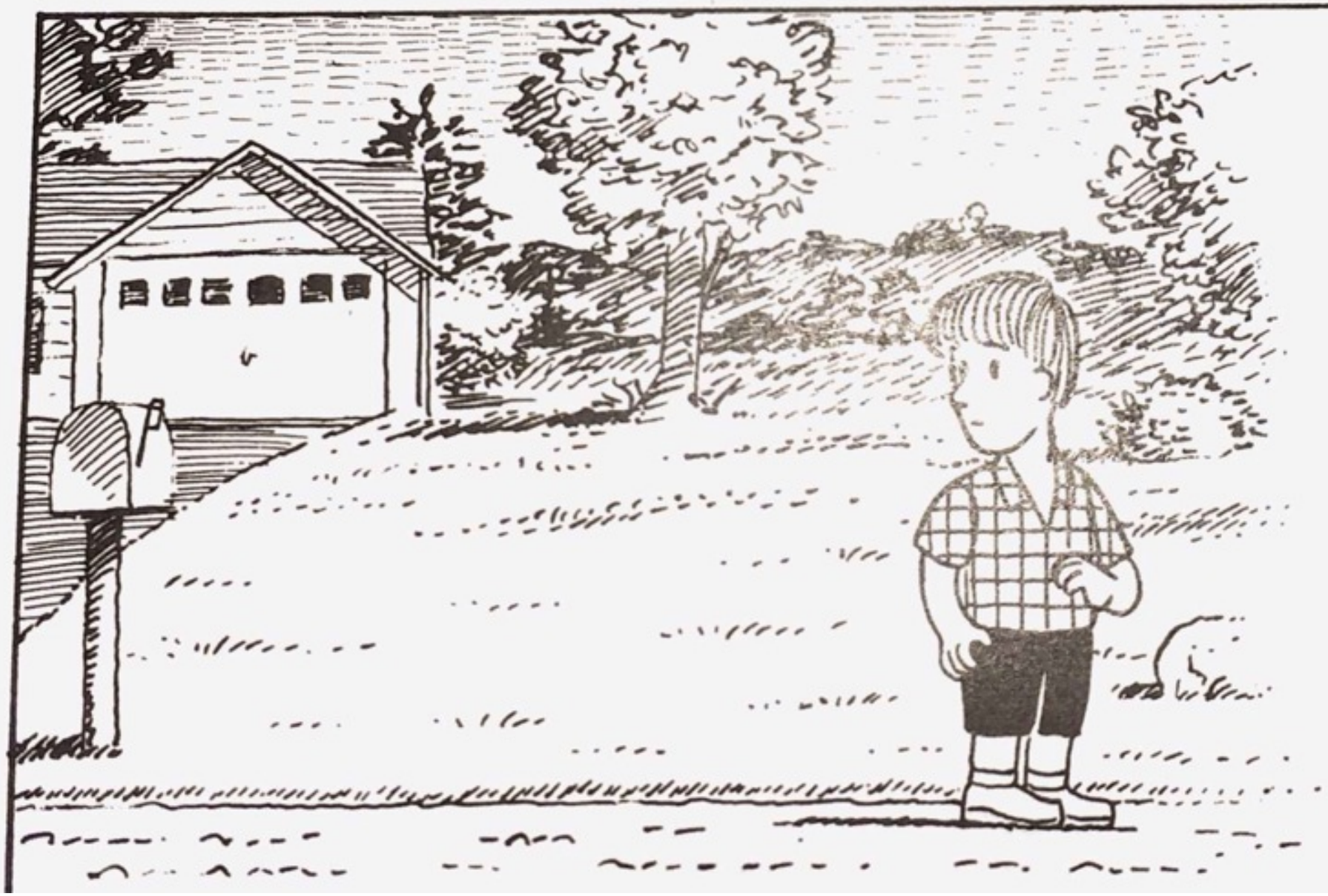
EPISTOMOLOGY

THE ELEPHANT IN THE ROOM

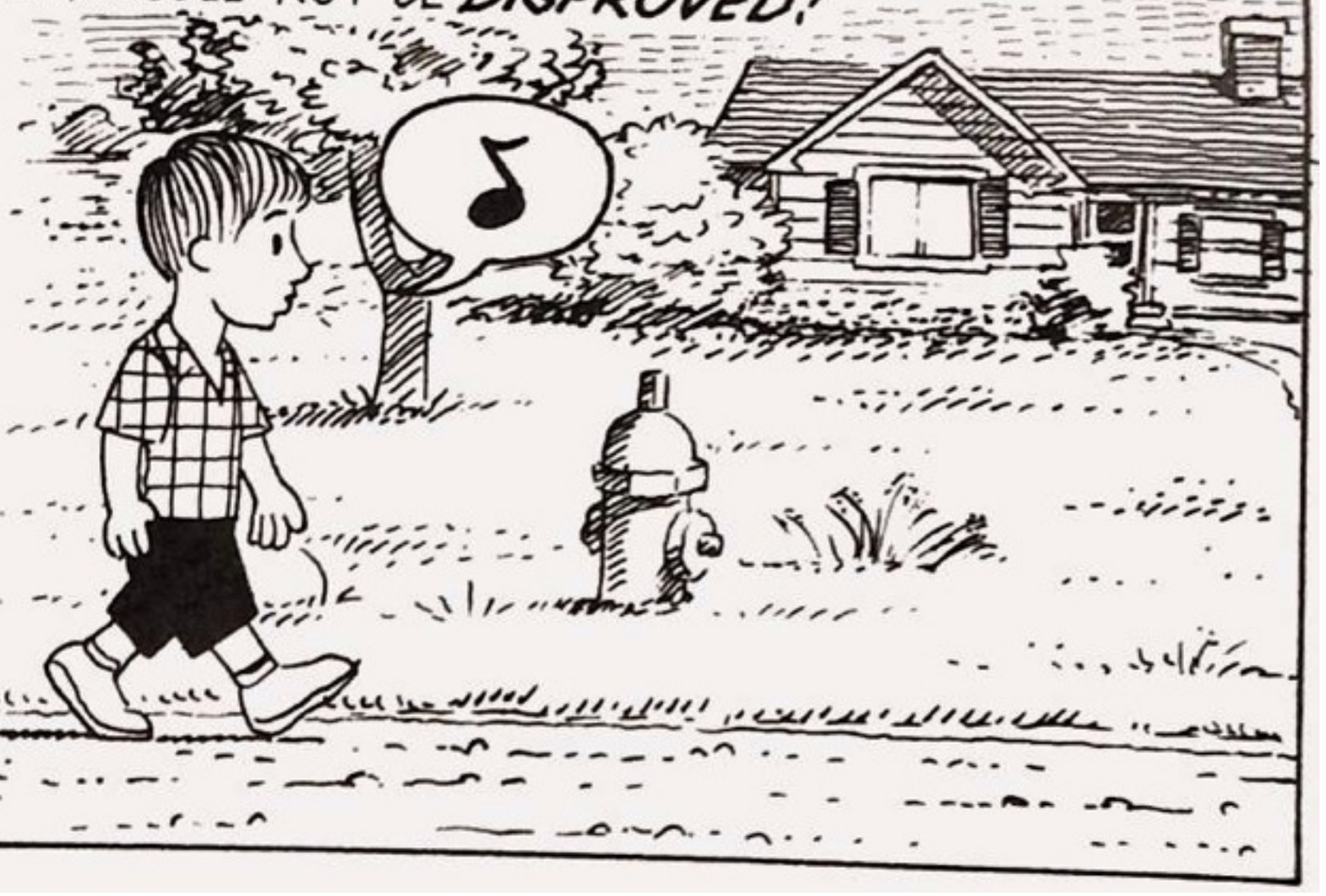
WHEN I WAS VERY YOUNG, I HAD A RECURRENT *DAYDREAM* THAT THE *WHOLE WORLD* WAS JUST A *SHOW* PUT ON FOR MY *BENEFIT*, THAT UNLESS I WAS PRESENT TO *SEE* THINGS, THEY JUST--



--CEASED TO EXIST.



LATER IN LIFE, I FOUND *OTHERS* WHO HAD *SIMILAR* DAYDREAMS AS CHILDREN. NONE OF US EVER REALLY *BELIEVED* THESE THEORIES, BUT WE HAD ALL BEEN *FASCINATED* BY THE FACT THAT THEY COULD NOT BE *DISPROVED!*



Complete Testing is im-Possible

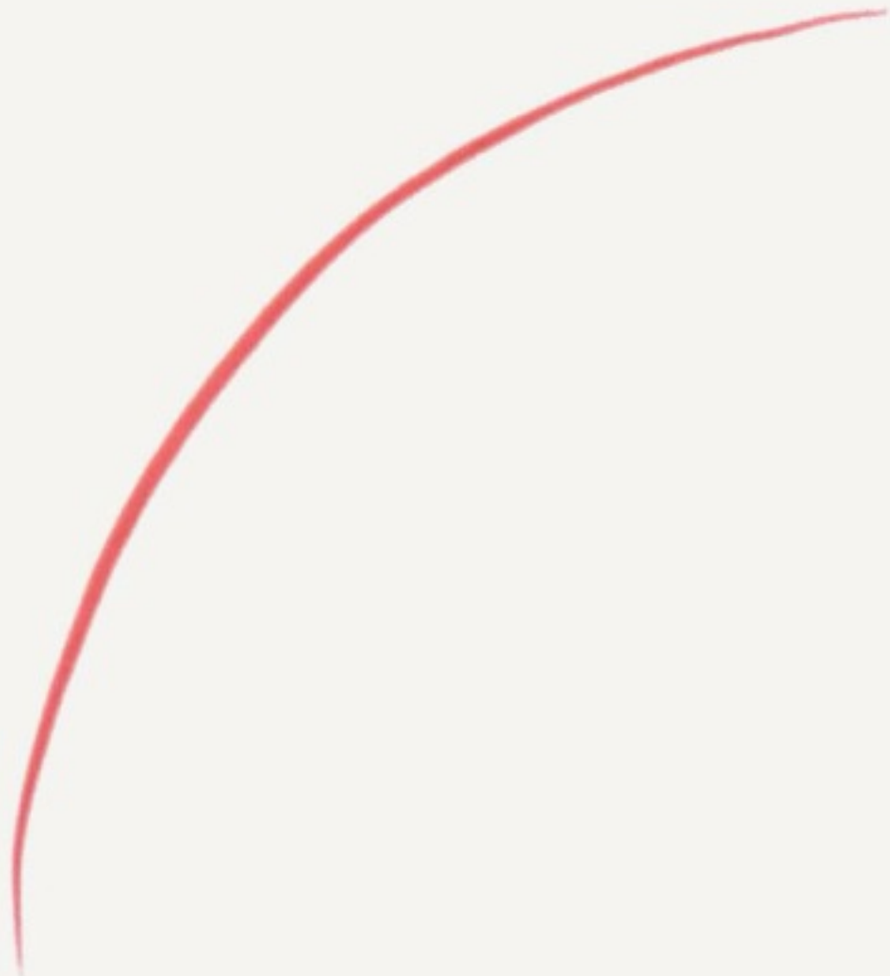
*NOT to scale

We do <u>not</u> asymptotically approach complete testing

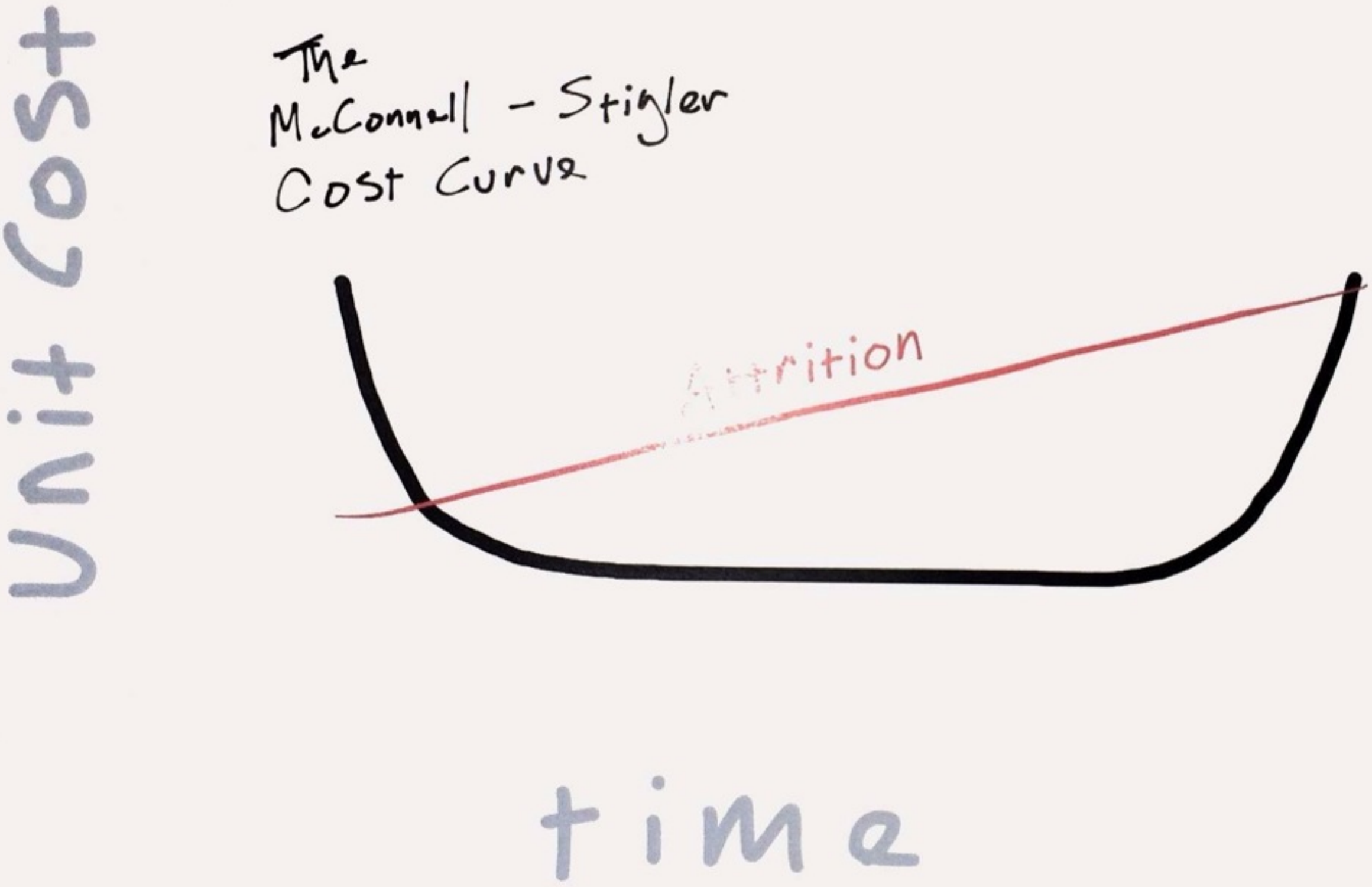
Complete!

Halfway there!

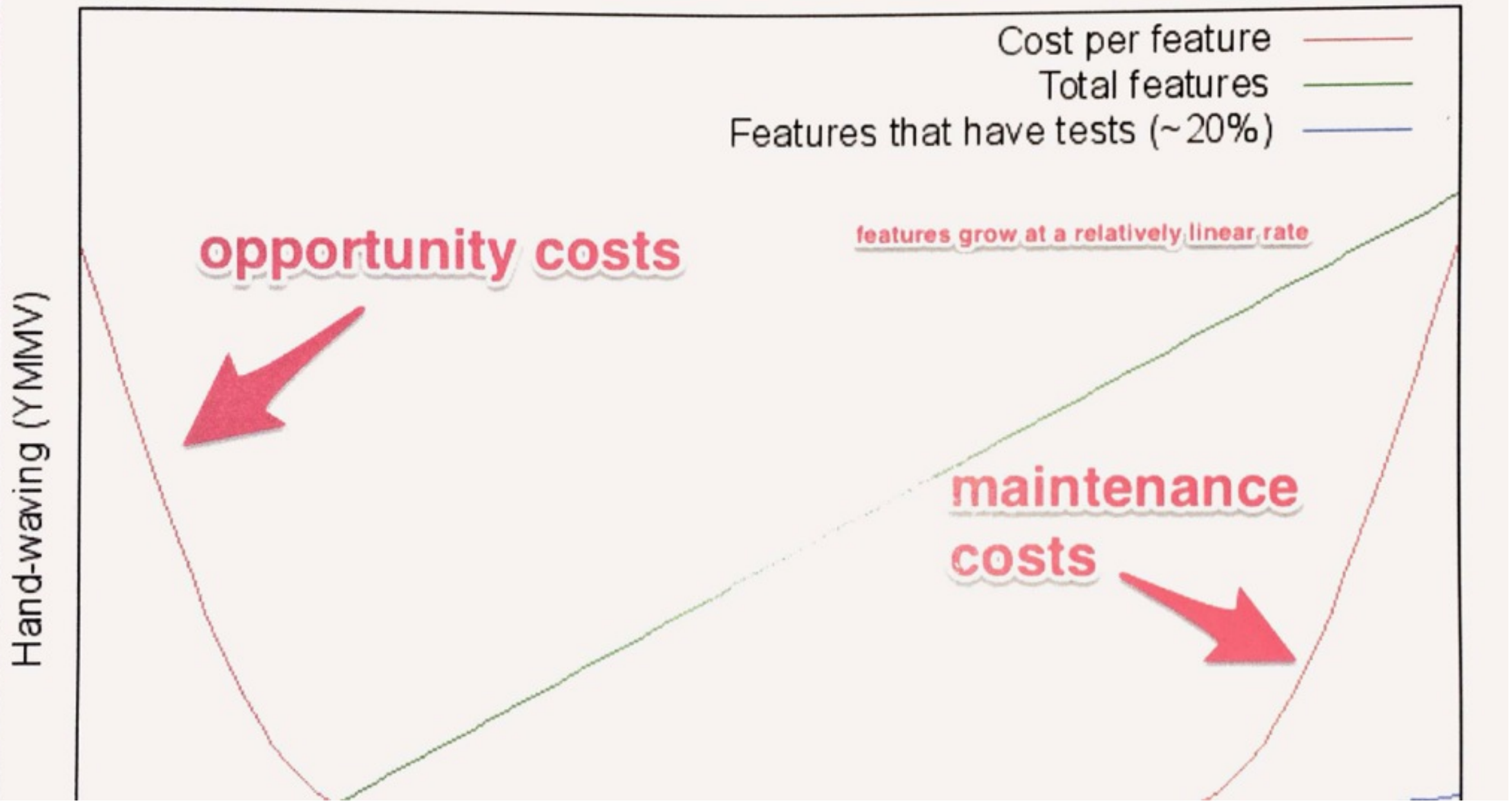
NOPE! →

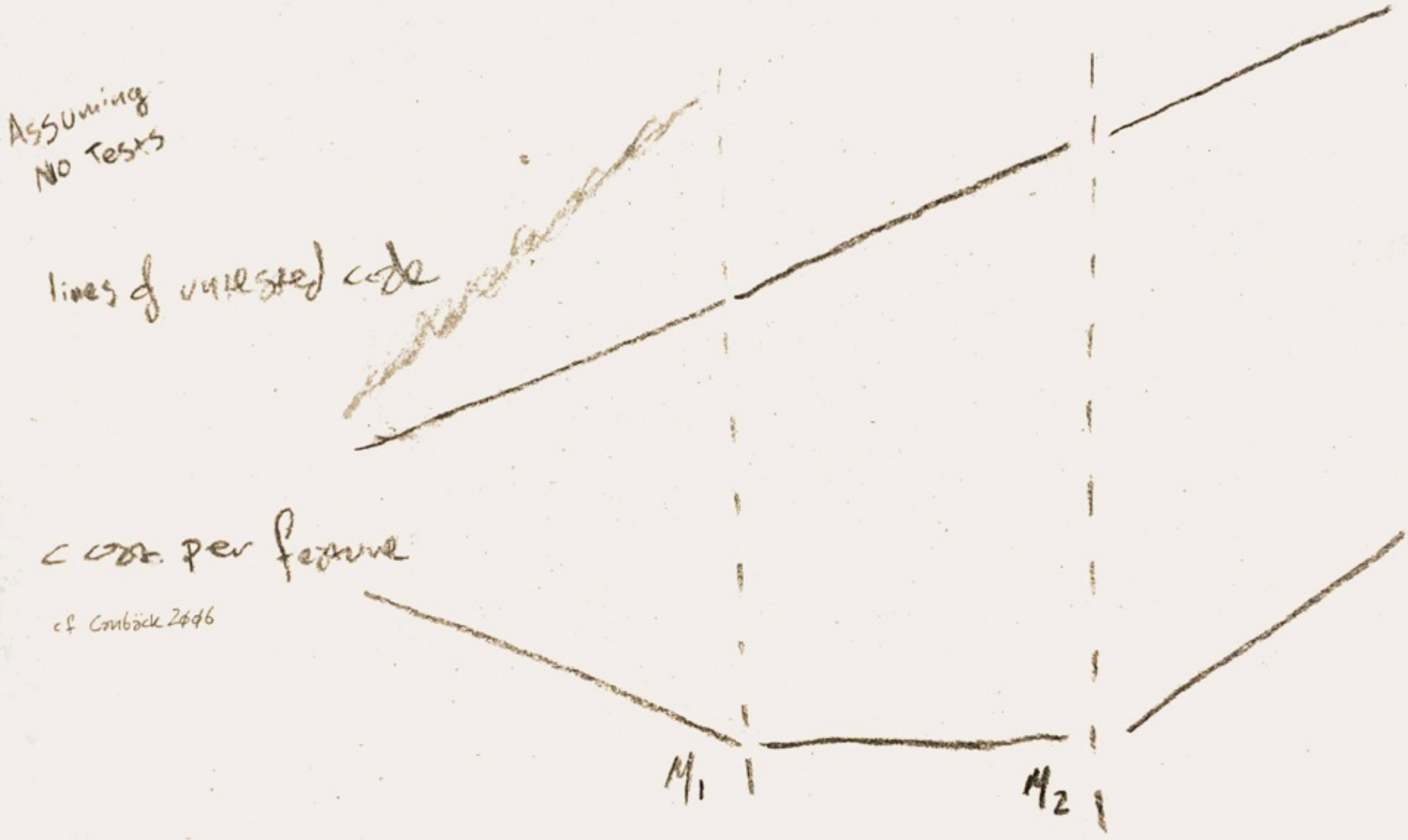


The McConnell - Stigler Cost Curve



Canback's cost curve overlaid with a typical SDLC.




Assuming
No Tests
lines of untested code
cost per feature
cf Combäck 2006
M1
M2

Continuous Delivery

Addresses rising

communication

costs

TESTING

IS

DESIGNING

KNOWLEDGE

WORKERS

MOTIVATION

- FEAR WON'T WORK

- INCENTIVES NEITHER

AUTONOMY
MASTERY
PURPOSE

EXTREME COMPLEXITY

RISK: ACCIDENTS ARE NORMAL

- Promote openness
- Blame isn't useful

HOLDING
INDIVIDUALS
RESPONSIBLE FOR
SYSTEM BEHAVIOR

DESIGN AND COMMUNICATION ARE THE SAME thing

TESTING
IS
DESIGNING

DESIGN AND
COMMUNICATION
ARE THE SAME
thing

IMPROVED
COMMUNICATION
REDUCES COST