

*Stupid Metrics Tricks*  
*And How to Avoid Them*



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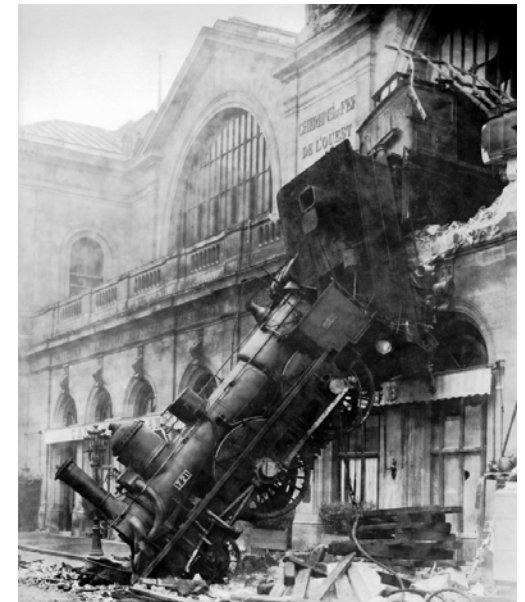
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## *Introduction*

- ⊕ Ever seen someone do something stupid with metrics?
- ⊕ Sure ya have!
- ⊕ Today, we're gonna look at stupid stuff people do with metrics
- ⊕ And, of course, we'll look at ways to implement metrics that aren't stupid





## *You Light Up My Life*

- ⊕ Do you find this slide easier to read when the font is lighter or darker?
- ⊕ Or do you find that the changing brightness of the font attracts your attention?
- ⊕ You are a victim of the Hawthorne effect
- ⊕ What gets measured gets done





## *And What Doesn't Get Measured, Doesn't!*

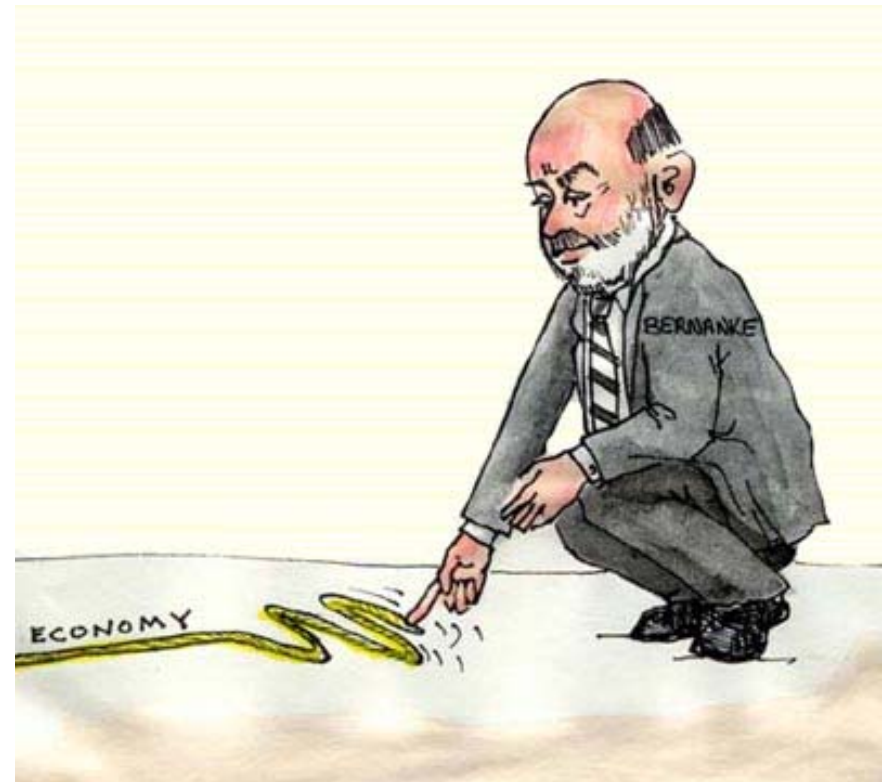
- ❖ People can get distracted from important facts
- ❖ Some people measure their worth in followers, likes, retweets, etc.
- ❖ How many count whether they cross the street without getting hit by a car?
- ❖ What happens if you measure things that are less important than what you don't measure?





## *Sometimes You're Pushing on a String*

- ⊕ What if you attach rewards or punishments to a metric?
- ⊕ That'll cause it to move in the right direction, yes?
- ⊕ Or just frustrate the hell out of people and cause no movement at all
- ⊕ Or, you might mistake random variation for movement





## *Deming's Red Bead Experiment*

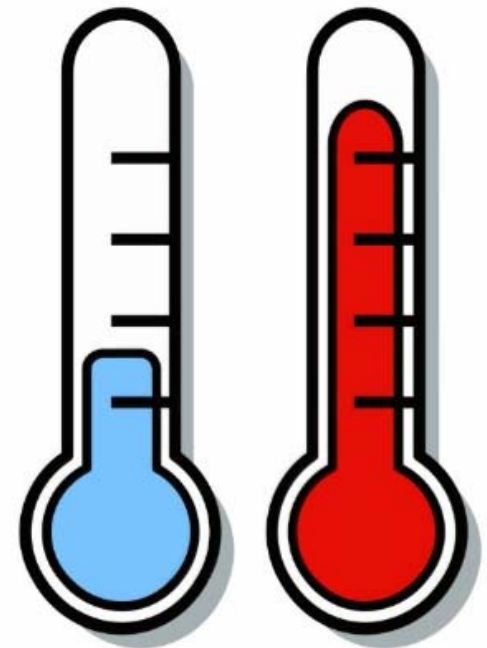
- ⊕ People separate white beads from a mix of red and white beads
- ⊕ All have a clearly defined task, follow the same process, have the same amount of time, and are evaluated quantitatively, exactly the same way
- ⊕ But, statistically, the scores are the result of random chance
- ⊕ The participants are given the tools by the manager
- ⊕ The manager defines the process and forbids any variation from the process
- ⊕ The manager gives the participants the raw materials
- ⊕ Remind you of any metrics programs you've seen?





## *Put the Lime in the Coconut*

- ❖ Quick, which shows a lower temperature?
- ❖ This illustrates a common mistake made by many testers, test managers, and other managers
- ❖ One example: taking the test pyramid literally rather than metaphorically



Blue

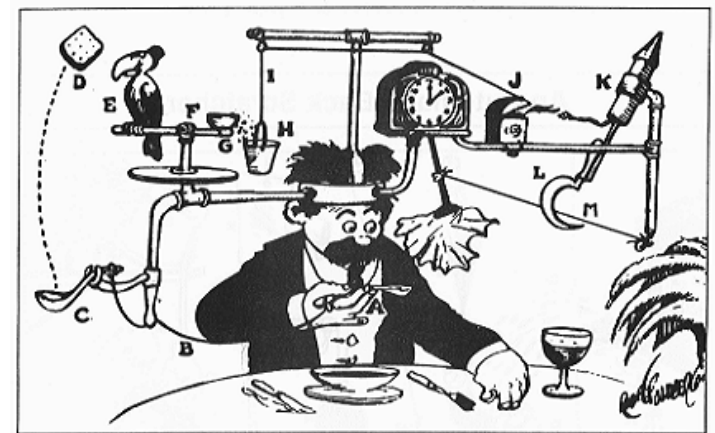
Red



## Rise of the Machines

- ✦ It's not unusual for people to have a goal of 100% test automation
- ✦ Does this make sense?
- ✦ Does this mean you don't test areas that aren't automatable?
- ✦ Does this mean you automate tests that run rarely?
- ✦ Is testing that consists entirely of verification (with no validation) really complete?
- ✦ Who's wagging whom?

Self-Operating Napkin







## *Inscrutable? Irrelevant?*

- ❖ Two questions from assessments:
  - ❖ Do you understand the test results?
  - ❖ Do the test results help you do your job?
- ❖ Common answers:
  - ❖ No and no
  - ❖ Yes, but no
- ❖ Always be able to answer the “so what” question





## *The Water Cannon of Raw Data*

- ✦ Some tools make it easy to deliver too much data and low/no information
- ✦ For example, 20 page test reports, slicing and dicing test case and bug metrics
- ✦ Instead, answer key questions:
  - ✦ What's been tested and what hasn't?
  - ✦ What is still at risk?
  - ✦ If we release now, what can we have confidence in and what can't we?
- ✦ These are the kinds of questions management actually cares about





## *So Why Bother with Metrics?*

- ✦ So, with all these potential mistakes, why bother?
- ✦ Because it's better to make decisions based on facts, not opinions, first impressions, and common sense
- ✦ Human cognition and human psychology do not lend themselves to good choices without the aid of facts
- ✦ Ignorance and bad ideas thrive in low-fact settings
- ✦ Pick one: proof by assertion or proof by evidence?





## *What's Needed to Gather Good Metrics*

- ⊕ Start with the objectives, then derive metrics for effectiveness, efficiency, and satisfaction
- ⊕ Keep the metrics set concise, relevant, and actionable
- ⊕ Ensure proper tool setup to gather the metrics
- ⊕ Provide proper training in the use of the tools
- ⊕ Remove any direct or indirect incentives or nudges to corrupt data
- ⊕ Tailor the metrics and their presentation to each audience



## *Conclusions*

- ⊕ The very act of measurement can change behavior
- ⊕ Measurement also re-directs attention
- ⊕ Even well-intentioned metrics can be misused, with dire results
- ⊕ Be aware of the mistakes so you can avoid them
- ⊕ But don't reject metrics simply because it's hard to use them right
- ⊕ Instead, work diligently and methodically to put good metrics in place



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