If It's Not Context Driven You Can't Do It Here

IRONY

Michael Bolton
http://www.developsense.com
Let's Test Conference
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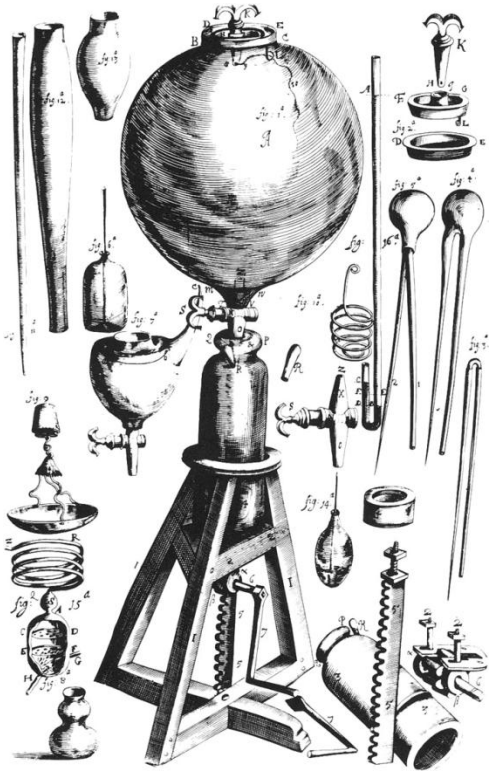
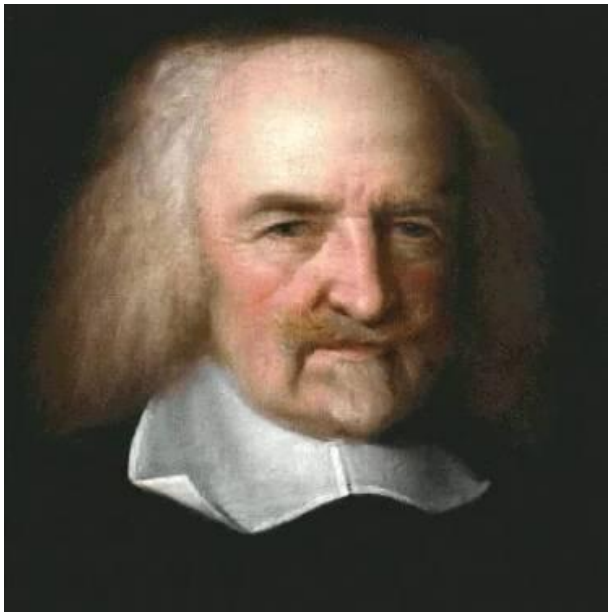
How To Think About Science

Simon Schaffer

David Cayley (ed.), Ideas on the Nature of Science
Goose Lane Editions, Fredricton, 2009
Also available as streaming audio on CBC
Search “How To Think About Science”

Boyle, Hobbes, and the Air Pump





The Seven Principles of the Context-Driven School

1. The value of any practice depends on its context.
2. There are good practices in context, but there are no best practices.
3. People, working together, are the most important part of any project's context.
4. Projects unfold over time in ways that are often not predictable.
5. The product is a solution. If the problem isn't solved, the product doesn't work.
6. Good software testing is a challenging intellectual process.
7. Only through judgment and skill, exercised cooperatively throughout the entire project, are we able to do the right things at the right times to effectively test our products.

UNCERTAINTY
UNCERTAINTY
UNCERTAINTY
POLITICS
VARIABILITY
EMOTIONS
UNRELIABILITY
UNCERTAINTY
UNCERTAINTY
UNCERTAINTY
UNCERTAINTY

The Testing Team's Motto

- "We are a service organization whose job is to reduce damaging uncertainty about the perceived state of the product."
  - Brian Marick
    http://www.exampler.com/testing-com/writings/purpose-of-testing.htm
- A key part of our service is to reduce *unwarranted* and potentially damaging *certainty* about the product.
- Are we in the business of shoring up illusions? Or are we in the unwarranted confidence demolition business?

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- Science has been going through significant changes over the last few decades
- The “pattern science” is no longer theoretical physics, but the field sciences (e.g. agronomy, field botany)

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The Social Sciences

- Social sciences study **humans, in society**
- What will the impact of X be on **people**?
- Use quantitative **and qualitative** research methods
- **High tolerance for ambiguity**, context-specific results
- **Ethics- and values-related** issues are relevant
- **Diversity** of values and interpretations **is normal**
- **Observer bias is an accepted fact of life** and is managed explicitly in well-designed research

From Cem Kaner, "Software Testing as a Social Science"
http://www.kaner.com/pdfs/KanerSocialScienceSTEP.pdf

What Is Testing?

The investigation of *systems* composed of people, computer programs, and related products and services.

- Yet since it deals with variable people, complex programs, and even more complex interactions between related products and services, testing can at best only promise what the social sciences deliver:

partial answers that might be useful.

What Is Testing?

- Excellent testing is not merely a branch of computer science
  - testing *includes* computer science, mathematics, technical domains
  - BUT… focus only on programs and functions, and you leave out questions of *value* and other relationships that include people
- To me, excellent testing is more like *anthropology*—interdisciplinary, systems-focused, investigative, storytelling

Biology

Archaeology

Language

Culture

Central Lessons of Anthropology

- “Every language is an old-growth forest of the mind.”
- “Other cultures are not failed attempts to be modern.”
- “All of the wisdom of all peoples can contribute to our collective well-being.”
- “We think that storytelling can change the world.”

From Wade Davis, “Dreams from Endangered Cultures”
http://www.ted.com/talks/lang/en/wade_davis_on_endangered_cultures.html

To test is to compose, edit, narrate, and justify THREE stories.

A story about the status of the PRODUCT…

…about how it failed, and how it *might* fail...

…in ways that matter to your various clients.

A story about HOW YOU TESTED it…

…how you configured, operated and observed it…

…about what you haven't tested, yet…

…and won't test, at all…

A story about how GOOD that testing was…

…what the risks and costs of testing are…

…what made testing harder or slower…

…how testable (or not) the product is…

…what you need and what you recommend.

How To Think About Science

Simon Schaffer

- Science has been going through significant changes over the last few decades
- The “pattern science” is no longer theoretical physics, but the field sciences (e.g. agronomy, field botany)
- **We must look not only at what scientists *say* they do, but what they *really* do**

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